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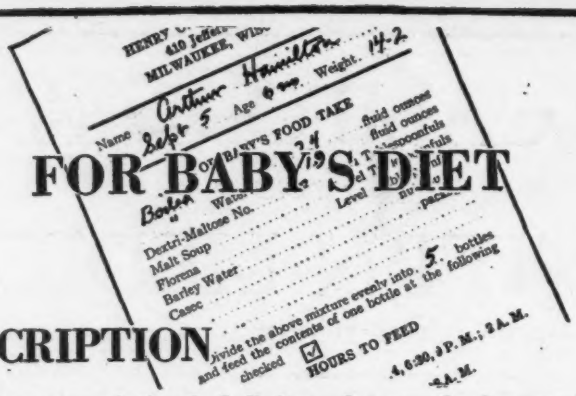

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CALIFORNIA
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VOL. XXII OCTOBER, 1924 No. 10

SPECIAL ARTICLE

SOME CLINICAL ASPECTS OF AURICULAR FIBRILLATION

A CRITICAL REVIEW

By A. W. HEWLETT, M. D., San Francisco

DEVELOPMENT of our understanding of fibrillation.
The nature of fibrillation.
Circus rhythm.
Auricular fibrillation influences cardiac efficiency partly by altering the ventricular rate and rhythm, and partly because the auricles no longer expel blood into the ventricles.
Auricular fibrillation commonly regarded as a serious cardiac disorder, but some physicians protest this view.
The great reputation of digitalis is due largely to its action in auricular fibrillation.
Indications and contra-indications for the use of quinidin.

THE first, definite, clinical differentiation of the cardiac irregularity now known as auricular fibrillation was made by James MacKenzie.[26] While engaged in general practice, MacKenzie recorded the venous pulses of his patients, arranged these records into groups, and showed that one of these groups was characterized by complete arrhythmia of the ventricles associated with an absence of normal auricular contractions. MacKenzie at first attributed this irregularity to auricular paralysis. Later,[27] he assumed that it was caused by the simultaneous contraction of auricles and ventricles (nodal rhythm).

That auricular fibrillation, experimentally induced, causes complete arrhythmia of the ventricles had been noted by a number of investigators.[30 8] The possibility that the complete irregularity of patients might be due to this cause was pointed out by Cushny,[6] and later emphasized by Cushny and Edmunds.[5] This explanation was not generally accepted, however, until Rothberger and Winterberg[33] and Lewis[24] demonstrated that electro-cardiograms from patients with complete ventricular irregularity commonly showed a succession of small undulations between the ventricular complexes which could be explained best by attributing them to fibrillary movements of the auricles. Lewis[28] later exposed the heart of a horse, showing a spontaneous irregularity of this type, and observed the auricles fibrillating.

In auricular fibrillation, the normal co-ordinated contractions of the auricles have been replaced by rapid inco-ordinated movements of the muscle. Different portions of the auricular muscle contract in irregular succession. The movements may appear coarse, suggesting a writhing, or fine suggesting a tremor; but in either case no effective propulsion of the blood from the auricles results from these inco-ordinated movements. On the other hand, the upper end of the His bundle receives a rapid and irregular succession of stimuli, estimated at from 350 to 600 per minute. The ventricular rate and rhythm are determined by the number and sequence of effective stimuli which cross the bundle. The ventricular rhythm is irregular because the stimuli come through irregularly. The ventricular rate varies, being markedly influenced by the capacity of the bundle to transmit the stimuli coming to it. Whenever the conductivity of the bundle is lessened, as by vagus stimulation or by the administration of digitalis, the ventricular rate is slowed, but still irregular. If the bundle be severed so that impulses can no longer pass from auricles to ventricles, the latter assume the slow and regular rhythm characteristic of complete heart block.[8]

The nature of fibrillation has been the subject of much study. It has been attributed[32] to rapid independent contractions starting from one or from many points in the auricular muscle. The experimental production of fibrillation by a rapid succession of electric stimuli accorded with this hypothesis. More recently, convincing evidence has been adduced in support of the theory that auricular fibrillation is caused by contraction waves which circulate without ceasing, round and round, in the auricular muscle—the so-called circus movements. This conception of auricular fibrillation, which we owe to Garrey[11] and to Mines,[29] is based in part upon experiments with circular strips of heart muscle. If such a circular strip be stimulated at one point, contraction waves ordinarily spread in each direction from the point of stimulation. The two waves meet on the opposite side of the ring and there die out. If, for some reason, one of the waves is blocked before it has spread far, the other will travel round the entire ring. By the time it has completed the circle, the starting point may have recovered its excitability. Under such circumstances, the wave will continue to travel round the circle, always finding excitable tissue ahead.

Actually, such circus waves, once started, have continued to travel round and round a circular strip of heart muscle for long periods of time. Lewis and his associates [22] have made electric records of the contraction waves in the intact auricle, and in this manner have demonstrated that the auricular fibrillation, which sometimes persists after faradic stimulation of the dog's auricle, is due to circus waves which usually circulate round the mouth of one of the venae cavae.

The inception of circus rhythm is favored by any condition which tends to block the normal spread of the contraction wave into a portion of the auricular muscle. Under such circumstances, the wave traveling by an indirect path may enter this portion of the muscle from the rear, and so initiate a circus movement. The original block in the muscle may be due to alterations in the muscle. Thus, de Boer [1] found that the hearts of frogs, which had been exsanguinated for a definite period of time, could readily be made to fibrillate, owing to the poor nutrition of the muscle. Block is also favored by a rapid auricular rate or by the occurrence of premature contractions, for certain portions of the auricular muscle may not have had time to recover from the previous contraction. Once circus movement has been initiated, the wave of contraction may continue to circulate about the mouth of one or both venae cavae for an indefinite period.

Circus contractions terminate whenever the head of the advancing wave of contraction fails to find responsive tissue in front of it. This might be due either to a more rapid progression of the wave through the muscle or to a longer duration of the period of inexcitability (refractory period) which accompanies and immediately follows contraction. Once fibrillation has ceased, an opportunity is afforded the normal peacemaker of the heart to regain control of the auricular contractions.

In man auricular fibrillation may be transient or persistent. Previous to the introduction of quinidin therapy, an auricular fibrillation which had persisted for more than two weeks usually continued for the remainder of the patient's life. For this reason, Hering called it the permanently irregular pulse (pulsus irregularis perpetuus). We now know that fibrillation may occur in paroxysms and that even the more persistent form is frequently converted into a normal rhythm when quinidin is given. During fibrillation, therefore, the normal auricular rhythmicity is not entirely abolished, but it lies dormant, being masked by the irregularity.

Auricular flutter is a condition closely related to auricular fibrillation. In flutter, the auricles beat regularly at a rate of 250 to 350 per minute, and the ventricles follow, usually in a one-to-two sequence. Flutter sometimes passes into fibrillation, particularly after the administration of large doses of digitalis. The reverse change sometimes occurs under the influence of quinidin. Lewis and his associates [22] showed that flutter, like fibrillation, results from circus contractions in the auricles. In flutter, the path of the circus contraction wave is more regular and longer, probably encircling the mouths of both venae cavae. The secondary waves passing out from the main circuit are also more regular in flutter.

Auricular fibrillation is encountered most frequently in two groups of patients—those who show degenerative changes in the heart muscle, and those with chronic rheumatic endocarditis, accompanied by mitral stenosis. The relative frequency of these two causes varies in different statistics, being influenced, apparently, by the incidence of rheumatic fever in the population. Thus, Lewis,[19] drawing his figures from England, where rheumatic fever is common, attributed 66 per cent of his cases to this infection, whereas Levine,[18] in Boston, found a clear rheumatic etiology in about one-third of his cases. German statistics [24] gave a frequency similar to the Boston figures. In San Francisco, auricular fibrillation of rheumatic origin appears to be even less frequent. The age incidence of auricular fibrillation varies with its etiology. Thus, Levine found that the average age of patients with a history of rheumatic fever was 37 years, whereas the average age of those with no history of rheumatic fever and with no clinical signs of rheumatic endocarditis was 58 years. Hyperthyroidism is a recognized cause of auricular fibrillation, but is less important than either of the two just mentioned. Willius and Boothby [42] found this irregularity with equal frequency among patients suffering from exophthalmic goiter, and patients with toxic adenomata. They state that it is more apt to occur in cases of long duration and that it is not particularly frequent in acute cases, even though the metabolic rate is high.

Auricular fibrillation is present in about half of the patients admitted to hospital wards with advanced cardiac decompensation. Also many patients with auricular fibrillation show clinical evidence of serious heart failure. At autopsy anatomical changes in the heart are common. For these reasons the presence of auricular fibrillation always suggests organic heart disease. Yet there is no convincing evidence that the physiologic changes underlying fibrillation necessarily depend upon serious organic heart disease, and various clinical observations indicate that in some individuals the opposite is the case. Thus, some patients with auricular fibrillation show no other clinical evidence of heart disease, and patients who have suffered from paroxysms of this disorder may show no abnormal signs between the paroxysms even on the most painstaking examination. Furthermore, paroxysms of fibrillation have developed in connection with hydrogen sulphide poisoning,[31] the administration of digitalis,[40] or even with deep breathing.[35] Thus, it appears that, while fibrillation usually complicates serious cardiac disease, it may also occur in individuals whose hearts on clinical examination appear to be normal save for the occurrence of this irregularity.

Auricular fibrillation influences the cardiac efficiency partly by altering the ventricular rate and rhythm, and partly because the auricles no longer expel blood into the ventricles. Of these, the change in the ventricular rhythm is usually the more serious. When the ventricles beat rapidly and very irregularly, certain systoles expel so little blood into the aorta that no pulse is produced at the wrist. The energy of these systoles is wasted, so far as the

propulsion of blood is concerned. As a measure of these ineffectual ventricular contractions, we may take the difference between the number of beats counted over the apex and the number of pulse beats felt at the wrist.[15] Where this "pulse deficit" is large, the heart must do an unusual amount of work to sustain the circulation. Digitalis produces its striking effects in this class of patients because, in addition to its other actions, it markedly slows the ventricles and reduces the pulse deficit.

The importance of auricular systoles for the maintenance of the circulation has been variously estimated. Ventricular filling is normally completed by the auricular systole, and in auricular fibrillation this final addition is absent. The amount of blood that is normally expelled into the ventricles by the contraction of the auricles has been variously estimated. According to Wiggers and Katz [41] from 18 to 60 per cent of the total blood entering the ventricles is thrown in by auricular systole. The effect of a loss of auricular contractions is difficult to estimate, but it would appear that in mitral stenosis the loss is particularly serious, for in this condition the contractions of a hypertrophied left auricle appears to be of special importance in forcing blood past the narrow mitral orifice.[14]

Among clinicians auricular fibrillation is commonly regarded as a serious cardiac disorder, yet some [4] have protested against this view. In a statistical study, White [39] found the death rate among patients with auricular fibrillation no higher than the death rate among cardiac patients with a normal rhythm. The possible fallacies underlying such a statistical comparison need not be emphasized. As clinicians we are interested in the question whether an individual patient whose auricles are fibrillating can be improved by a restoration of the normal regular rhythm. This question has assumed practical importance, because we now have in quinidin a drug which will restore the normal rhythm in a certain proportion of these patients. It is universally admitted that where the ventricular rate during fibrillation is rapid and there is a large pulse deficit, the circulation is improved if the ventricular rate is slowed and the pulse deficit reduced. This reduction in ventricular rate may be attained by the administration of digitalis, but with persistence of the auricular disorder. It may also, in some cases, be attained by the administration of quinidin with a return of normal auricular activity. Has such a normal rhythm any advantage over an equally slow irregular rhythm? Clinical experience indicates that the results which follow a restoration of the normal rhythm vary in different patients. In some fibrillation may appear and disappear without the patient being conscious of any change in his condition. Most patients, on the other hand, experience some relief when fibrillation disappears. The sense of palpitation commonly lessens, and frequently the dyspnea improves. Objective improvement may also be demonstrated in some patients. The vital capacity may gradually increase,[3] the rate of circulation in the arm improve,[36] and the pulse tracing show changes indicating an improved cardiac output.[16] Occasional patients who have been treated for a long time with digitalis experience striking improvement when the normal rhythm is restored by quinidin.[13] Clinical studies, therefore, indicate that, while in certain patients the auricular fibrillation is incidental and does not add seriously to the cardiac insufficiency, in most patients it is disadvantageous, and in some a normal rhythm is far superior to an irregular rhythm even when the latter is controlled by adequate doses of digitalis.

Digitalis has gained its great reputation as a cardiac drug largely through its action on patients with auricular fibrillation. Digitalis does not abolish the fibrillation, but, as MacKenzie [28] showed, it exerts a marked slowing effect upon the irregular ventricular rhythm associated with auricular fibrillation, whereas a normally beating heart is little if at all slowed by the therapeutic doses of digitalis ordinarily given. In auricular fibrillation, the upper end of the His bundle is subjected to a rapid stream of stimuli (350-600 per minute). The ventricular rhythm is determined by the number of effective stimuli which succeed in crossing the bundle. Since digitalis lessens conductivity in the bundle, the ventricular rate is slowed and the pulse deficit is lessened. This is the most important cause of the improved circulation which usually follows the administration of digitalis to patients suffering from auricular fibrillation. In such patients digitalis should be given in doses sufficient to reduce the ventricular rate to about seventy per minute when the patient is at rest. This rate should be maintained indefinitely by the continued use of small doses of digitalis.

A patient suffering from paroxysmal fibrillation informed Wenckebach [38] that he could stop his paroxysms by taking large doses of quinin. Wenckebach's further experience led to the conclusion that, while paroxysms of this irregularity could sometimes be terminated by quinin, this drug was ineffective against the persistent form of fibrillation. W. Frey [10] studied the effect of various cinchona alkaloids upon patients with auricular fibrillation and concluded that quinidin, the most effective of these, produced a normal rhythm in about 50 per cent of those suffering from persistent fibrillation. In a later analysis of his cases, Frey [9] pointed out that quinidin was more apt to be successful when compensation was fairly good and when the fibrillation was not of long standing (less than a year). Such factors as the age and sex of the patient or the nature of the underlying heart lesion made little difference in its effectiveness. Later statistical analyses have confirmed these conclusions. Fifty per cent or more of chronic fibrillators have recovered, for a time at least, a regular rhythm after quinidin.

Lewis and his associates [25] analyzed the cardiac action of quinidin and showed that this drug depressed the vagus and at the same time, through direct muscular action slowed conduction and lengthened the refractory period of the muscle. In discussing the circus theory of fibrillation, we pointed out that fibrillation ceases when the head of the advancing wave finds no excitable tissue in front of it, and that this might be due either to a more rapid conduction of the wave or to a more prolonged refractory period. According to Lewis, quinidin stops fibrillation through prolonging the

refractory period; for its effect in slowing the conduction would tend to have the opposite effect. During its administration to patients, the rate of fibrillatory movement is reduced, and if this rate fall below 300 a transition to the normal rhythm usually occurs.[20] Quinidin commonly increases the ventricular rate during auricular fibrillation, partly because of the vagus paralysis and partly because, in accordance with recognized physiological principles, the slower fibrillary rate permits more stimuli to cross the His bundle.[21] In some patients the depressing effect of quinidin upon the His bundle predominates, and ventricular slowing or even complete heart block, after the drug have been reported.[43]

We have already discussed the clinical results of a change from auricular fibrillation to the normal sinus rhythm—in some patients no great effect is apparent, in most there is a definite improvement, while in a few the results are brilliant. In practice, the possibility of obtaining permanent improvement from this drug must be carefully balanced against possible harm from its use. Aside from such unpleasant and disquieting disturbances as nausea, headache, tinnitus, depression, palpitation, and tachycardia, it may for a time lessen compensation, and occasional fatalities have occurred during and shortly after its administration. These fatalities have been due in part to the liberation of emboli from clots present in the left auricle; in part they appear to have been due to changes in the ventricular rhythm such as numerous extra systoles or ventricular fibrillation [17] or to a depression of the contractile power of the heart muscle. In practice, one must also bear in mind that fibrillation frequently recurs, sometimes quite promptly after the normal rhythm has been re-established and that this recurrence is more common in cases of long standing and in those with decompensation.[37]

The following is a conservative estimate of the indications and contra-indications for the use of quinidin in auricular fibrillation. First, quinidin should not be given if emboli have occurred. Second, any decompensation should be treated by the usual measures before giving this drug, and unless the decompensation can be improved quinidin should be given cautiously or not at all. Third, quinidin is particularly indicated in fibrillation of recent onset and where signs of marked decompensation are absent, but it may be tried even when the fibrillation has persisted for a year or more. Fourth, if normal rhythm is re-established, it is advisable to continue small doses of quinidin for weeks or months for the purpose of avoiding a return of the irregularity. Given according to these indications, the danger from quinidin is slight and the benefits from its use are often striking.

The story of auricular fibrillation exemplifies the benefits which may follow the application of physiologic methods and physiologic conceptions to the practice of medicine. Mackenzie's use of the polygraph and the later use of the electro-cardiograph differentiated this irregularity from the others commonly met in the clinic. Further study of this group of patients demonstrated their susceptibility to digitalis, and taught us to administer this drug with greater precision. Finally, the chance observation that quinin might terminate a paroxysm of irregularity could hardly have borne fruit, had our knowledge of the irregularities not progressed to the point where a careful study of other cinchona derivatives could be made on other types of fibrillation.

Lane Hospital.

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Sun and Moon Oil and Ointment (Propaganda for Reform, reported by Council on Pharmacy and Chemistry of the A. M. A.)—Alfred W. Lowrie of Hartford, Conn., an alleged divine healer, mixes religion with his quackery. In a publication by him he is said to have died once, and while dead was ushered into the presence of the Supreme Being. While in heaven, Lowrie was presented with the "key to knowledge" to be used by him when he returned to earth. After Lowrie's visit to heaven, he seems to have started making what he is pleased to call "Sun and Moon Sacred Ointment" and "Sun and Moon Sacred Anointing Oil." The ointment is claimed to contain "vibrations of life from the radio-activity of electricity, magnetism, electrons, and atoms." The ointment is to be used externally and internally for a variety of ailments. The A. M. A. Chemical Laboratory found the composition of the ointment to be essentially: petrolatum, 75.50 per cent; saponifiable fat, 17.20 per cent; methyl salicylate, 4 per cent; "dirt," 0.15 per cent; oil of sassafras, water and undetermined, 3.15 per cent. The "sacred oil" is for external and internal use. It was claimed to have no equal for tired and sore feet, rheumatism, neuritis, lameness, hardening of the arteries and nerves, broken bones, skin diseases, and other conditions. The A. M. A. Chemical Laboratory found the oil to consist essentially of fixed oil (probably olive oil) 87 per cent, methyl salicylate 5 per cent, oil of sassafras 1 per cent, alcohol 2 per cent, water and vegetable extractive 5 per cent.—Journal A. M. A.

Castela Nicholsoni in the Treatment of Amebiasis—Doctors G. R. W. French and A. W. Sellards (U. S. Naval Bulletin) treated sixteen cases of long standing amoebic dysentery during an exacerbation with a preparation of castela nicholsoni. The therapeutic results varied widely. In about one-third of the cases the immediate results were almost spectacular, the symptoms and amoebae disappearing in two or three days; in another third of this group the same improvement occurred, but much less promptly; in the remaining third the results were poor. In contrast to emetine and its derivatives, preparations of castela can be administered easily and pleasantly by mouth. It is an excellent stimulant to the appetite, and patients tend to gain rather than lose weight while under treatment. In our opinion, castela, when properly used, is equally or slightly more effective than emetine in amoebic dysentery. Moreover, it can be employed without risk attendant in the use of maximal doses of emetine. Neither drug has proved adequate in chronic amoebiasis, though castela merits much more investigation.

COCCIDIOIDES OF THE CENTRAL NERVOUS SYSTEM

By MYRL MORRIS, M. D., San Francisco
(From Children's Hospital, San Francisco)

Coccidioidal granuloma probably does not involve the central nervous system primarily.

Of the geographical diseases, coccidioidal granuloma plays a unique role, being almost exclusively confined, according to our present knowledge, to a section of California, the lower San Joaquin Valley. Although the single case of Posadas (Buenos Aires), is probably identical with ours, all but one or two of the cases studied have resided in California, there having been no other cases reported from Buenos Aires. Rixford's original case, and another observed later in the same year by Rixford and Thorne (Occidental Medical Times, 1894), gave material for valuable investigation by Rixford and Gilchrist, whose monograph was published two years later (1896).

Coccidioidal granuloma, a disease caused by the coccidioides immitis, and named by Stiles of Washington from its resemblance to coccidia, is a distinct clinical entity and should not be confused with torula or blastomycotic infections. The organism presents many characteristics of a mold, and is easily demonstrated in pathological tissue, pus, and sputum. When found in tissue it is identified as a comparatively large (30 micron) spherical body which is doubly contoured with a highly refractile capsule.

Reproduction within the tissue occurs by endosporulation and never by budding. Compared with torula and blastomycosis, this is a most important distinction. In culture, on the other hand, as first demonstrated by Ophuls and Moffit, coccidioides always grows. mycelia and aerial hyphae; torula never does.

A majority of cases are in the male, probably because of greater exposure. Besides the case presented below, Rixford has had another case in the female, which was one of generalized infection. In general, the clinical picture closely resembles tuberculosis in many of its characteristics. Indurated skin nodules, pulmonary lesions, or less frequently, involvement of the joints constitute initial lesions, which are differentiated from Koch's infection only by demonstration of the etiological agent. The initial lesion remains localized for years, but eventually a generalized infection ensues, resembling military tuberculosis, or acute glanders. Disseminated pulmonary tubercles, widespread suppurating subcutaneous abscesses, or a combination of both, most frequently terminate the picture. Such a generalized infection is evidenced by fever, chills, sweats, anemia, mild leukocytosis, and emaciation. Meningitis occasionally is the cause of death. Empty shells of these organisms have sometimes been found in the lungs of patients dying of other diseases, which can only be explained by the fact that the disease is not quite 100 per cent fatal.

Coccidioidal granuloma probably does not involve the central nervous system primarily. In the generalized terminal stage the basal meninges occasionally are the seat of extensive tubercle involvement, as are other parts of the body. When systemic evi-

dence of the disease is slight, or the skin lesions have healed, coccidioidal meningitis offers increasing difficulties for diagnosis. These cases, however rare, are frequently confused with other forms of meningitis.

In general, when coccidioides attack the central nervous system, the basal meninges show tubercle formation, in contra-distinction to the brain tissue proper. This pathology contrasts strongly with torula infections which have a marked affinity for both meninges and the true nervous tissues. Systemic blastomycosis (regional around Chicago), in addition to deep and superficial ulcerations of the skin, and tubercle—like nodules in the viscera—involve the tissues of the cerebrum and cerebellum, and this condition contrasts also with coccidioides by the involvement of the deeper tissues of brain. Torula has been isolated from the spinal fluid.

In our case the organism was probably obtained from a minute piece of pia-arachnoid loosened by the needle during the fourth spinal puncture. This procedure preceded the operation, but a positive report was not obtained until some weeks later.

CASE REPORT

A. R., female, age 5 years, American. Entered Children's Hospital, San Francisco, May 25, 1920. Expired September 2, 1920.

Complaint — Referred by Dr. Edmunds of Le Moore, with a diagnosis of tubercular meningitis.

F. H.—Mother alive and well. Father suffering from active tuberculosis. (Father's sputum has since been carefully examined by Dr. Rixford; acid-fast bacilli were found but no coccidioides). No brothers or sisters.

P. H.—Normal as to birth, nutrition, and development. Has suffered from no diseases which have any bearing on present illness.

P. I.—Three months previous to entrance in hospital, the child had a rash, which was diagnosed chickenpox and scarlet fever. There was no history of a subsequent exfoliation, however. Shortly after this the patient complained of severe frontal and occipital headaches, with frequent attacks of vomiting. There was no dizziness, no convulsions. About two weeks after this acute illness, the child could walk only with the aid of a nurse, and stood only with support. Within the next two months the child became stuporous and dull, and acted as if she had lost her sight. There was progressive muscular weakness in both arms and legs, with a resulting spasticity. Subsequently, there has been definite increasing pain on movement of the limbs. About this time the child began to have mental relapses, during which attacks she seemed to live in the past. She was definitely disoriented as to person, time and place, and could not answer questions intelligently. Her sight became progressively worse. The child gained weight continually. The back, arms, and legs showed progressively increasing abnormal hairiness.

Physical examination revealed a semi-comatose, anemic child, very hyperaesthetic to touch and very irritable if disturbed. The extremities were flexed, the right more than the left. Both feet were hyperextended; left hand was held in obstetrical position. There were occasional involuntary twitchings of both extremities. Abnormal hairiness of face, back, and limbs.

Head—Pupils dilated, both reacted slowly to light. Left pupil larger than right and irregular in outline. Slight ptosis of right lid and a lateral deviation of right eye. No mystagnus. Eye grounds: Swelling of left nerve head, with definite nasal pallor. The right background was less abnormal. Hearing: Diminished on the right. Definite right facial paresis: Spontaneous trismus, with marked grinding of the teeth.

Lungs—A few crepitations at right apex, but these were decidedly inconstant. Breath-sounds not abnormal over this area. The remainder of the lungs were clear.

Heart—Negative.

Abdomen—Liver and spleen not felt. No abnormal tumor masses noted. Skin clear.

Extremities—No muscle atrophy, occasional involuntary twitchings. Both legs spastic. Feet hyperextended. Patellar and ankle clonus marked.

Reflexes—The biceps, triceps, and radical periostrial were markedly exaggerated. Left abdominal reflex increased. Kernig's sign positive on the left. Babinski's sign positive on the left. Knee-kicks hyperactive, more so on the left.

Laboratory — Blood Wassermann, negative; urine, negative. Blood: Hb. 54 per cent; R. B. C. 4,000,000; W. B. C. 12,000. Neut. 62 per cent. Lymph. 38 per cent Eos. 0. Bas. 0. Von Pirquet: Negative. Spinal puncture: Pressure increased. Cell count, 251. Lymphocytes predominating—atypical web. Wassermann, negative. Globulin plus. No organisms seen. Four punctures in all were made.

X-ray — Skull: Generalized intracranial pressure. X-ray—Chest: Slight enlargement of bronchial root glands, with increased thickening of bronchial markings toward both tops, especially the right.

Operation four weeks after entrance; Dr. Rixford. Osteoplastic flap made in right temporal region. Increased pressure. Two indurated greyish granulomata on surface of brain, apparently on pia mater. One such, 3 x 4 mm., at the upper margin of the temporo-sphenoidal lobe and adherent to the dura was excised. Another 10 x 12 mm. in close proximity was also obtained for pathological study.

Pathological Report — Lesion from right temporosphenoidal lobe adherent to dura. Section: Nodule of dense fibrous tissue in which there are many small tubercles made up of epithelioid cells with large multi-nucleated giants cells; few small caseous spots. In giants cells many large spherical parasites with double contoured capsules. No sporulating forms found.

Coccidioidal granuloma of brain.

(Signed) W. Ophuls.

Post-operative Course—The child gradually went from bad to worse. The intracranial pressure increased and a brain hernia ensued. The patient became stuporous and dull, and lingered in this condition about two months. The temperature ranged from 38 C. to 41 C. at the termination. The child died in collapse three and one-half months after entrance, and two and one-half months after operation. Autopsy not permitted.

There are three important features connected with this case. 1. Coccidioidal granuloma rarely is noted in the female, and this case, therefore, represents the exception. 2. When the central nervous system becomes involved, it is ordinarily a feature of systemic infection. In this case, the signs of the lung involvement were insignificant and the nervous symptoms were the outstanding feature of the clinical picture. (Primary coccidioidal granuloma of the lungs is assumed in this case without pathological proof.) The connection between the scarlet rash and the chickenpox, which immediately preceded the nervous involvement, is problematical. 3. Lumbar puncture gave the opportunity to culture the coccidioides immitis. The organism was probably contained in a small piece of pia-arachnoid obtained by this procedure.

Dr. G. Y. Rusk has reported this case verbally at the Pathological Section of the California State Medical Meeting, 1922.

I wish to thank Dr. W. Ophuls for the pathological report of the specimens removed by Dr. Rixford at the operation, and Dr. Emmet Rixford for his co-operation and advice.

240 Stockton Street.

DISCUSSION

Emmet Rixford, M. D. (1795 California Street, San

Francisco)—Dr. Morris has given a very good and fairly complete resumé of the literature of coccidioides and has well described our case, in which the only demonstrable lesion was a meningitis. She shows, on the basis of finding at autopsy dead coccidioides and empty capsules in a few cases in which the patient had died of other causes, that the mortality is not quite 100 per cent. Moreover, a few cases have been observed in which coccidioidal lesions have remained local. Of such I can report two: one of the carpus and one of the sheath of the flexor tendons of a finger, in which the patients remained free of systemic infection, as far as could be determined, for a number of years.

One point has escaped attention in later publications of coccidioides, and that is that our two original cases, reported in 1894, presented two distinct types of organism. As far as I have been able to learn, all the cases reported except the second (Thorne and Rixford) have been of the same type as the first, namely, a sphere with highly refractile capsule packed full of small spores. In the second case the organism was twice the diameter of that in the first, with a much smaller number of relatively large spores distributed about a hyalin center. Perhaps more remarkable than the differences in the organism was the striking difference in clinical history of the two cases; the first, chronic, living under our observation upward of two years after the appearance of the skin lesions of the neck; the second, acute, for the patient lived but six weeks.

At first we thought the organisms were protozoa, but Dr. Welch of Johns Hopkins, to whom we sent some of the material, was not convinced. Therefore, material was sent to Dr. Stiles of Washington, at that time the foremost authority in America on protozoa. He failed to determine the biological position of the organism and named it coccidioides immitis because of its resemblance to coccidia.

With the single exception of the case of Posadas of Buenos Aires and one or two cases, about which there is some doubt as to their having lived in California, all of the patients thus far reported have lived in California, chiefly in the San Joaquin Valley. The original case was that of a Portuguese laborer who had been employed for a long time at Port Costa. I have not seen material from the case of Posadas, but presume from the description that it is the same or a very similar organism.

William Ophuls, M. D. (Stanford University Medical School, San Francisco)—I have read Dr. Morris' article with the greatest interest. Infections of the central nervous system in this disease are by no means rare. As Dr. Morris has emphasized, the disease attacks the meninges and does not involve the nervous tissue except secondarily. The resemblance of the lesions in the pia mater to those ordinarily produced by tubercle bacilli is often very striking; so much so that their real nature cannot be recognized except by microscopic examination. In other cases the involvement of the meninges is more of a chronic nature with special localization in the meninges of the spinal cord. In such cases clinical symptoms may arise which resemble those observed in syphilitic meningomyelitis, although the progress of the disease is more rapid, and the fatal termination occurs earlier.

The exact classification of the fungus producing the disease is still a matter of uncertainty. It exhibits certain close resemblance to the oidia, although it differs from the ordinary oidia in certain respects, especially in the shape and mode of development of the spores. In spite of these discrepancies, it seems advisable for the present to place the disease among the oidiomycoses as suggested by Ricketts.

Dr. Morris (closing)—It is indeed a pleasure to hear the remarks of pioneers in this field, and I wish to thank both Dr. Rixford and Dr. Ophuls.

UNSUPERVISED DIETS OF INFANTS UP TO ONE YEAR OF AGE*

By ERNEST L. BOTTS

The outstanding fault in breast-feeding is its low incidence.

The early termination of breast-feeding is dangerous to the child and is also unnecessary.

Breast-feeding is not worked for in the general hospital as intensively as it is in the teaching hospitals.

"Five essentials for satisfactory breast-feeding: (1) *Conviction on the part of the physician that the mother can nurse her baby.* (2) *Conviction on the part of the mother that she can nurse her baby.* (3) *Stimulation of breasts at regular intervals.* (4) *Complete emptying of breasts, if necessary, by manual manipulation after each nursing.* (5) *Patience and perseverance."*

The basis of this study is 663 case histories of infants seen at the Friday Health Center of the American Association of University Women, San Francisco, under the supervision of Adelaide Brown.

The previous dietary history is taken in each case, including the period of weaning from the breast and reason therefor.

The points to determine were the types of feeding employed and the physical condition of the child before it was put under medical care and supervision.

1. How are babies fed who are not under medical supervision.
2. When are they weaned.
3. What is the result to the infant.

The infants were from 3 weeks to 12 months in age. The general points worked out group themselves under the two natural divisions of (a) defects of maternal nursing, and (b) defects of artificial feeding.

Maternal Nursing — The outstanding fault in breast-feeding is its low incidence. In 327 infants where the facts about weaning were obtainable, 71.3 per cent were nursing after one week, and 33.8 per cent only at three months. (Chart I.) Compare these figures with those of 125 infants from the Stanford well baby clinic; 82 per cent are nursing at the end of one month; 64 per cent at three months; and 50 per cent at eight months, contrasted with 13 per cent only of the unsupervised babies who were still breast-fed at eight months.

The general physical condition of artificially fed infants was less encouraging than it was among those breast-fed.

The early termination of breast-feeding is dangerous to the child and is also unnecessary. A comparison of muscle tone, nutrition, constipation, diarrhea, vomiting, colds, and rickets between the breast-fed and the artificially fed infants is shown in Chart II.

Chart II—Health Comparisons between Breast and Bottle-fed Infants

	Breast-fed Per cent	**Bottle-fed Per cent
Good (muscle) tone	95	90
Poor tone	5	9
Good nutrition	96	87
Poor nutrition	4	13
Constipation	10	16
Diarrhoea	0.3	12
Colds	5	17
Eczema	3	17
Dermatitis	3	6
Other rashes	4	10
Inadequate sleep	0.5	4

* Part of a study presented as a thesis for graduation from Stanford Medical School, by Ernest L. Botts. Read by Adelaide Brown, M. D., San Francisco, at the Fifty-third Annual Session of the C. M. A.

** No breast feeding after three days.

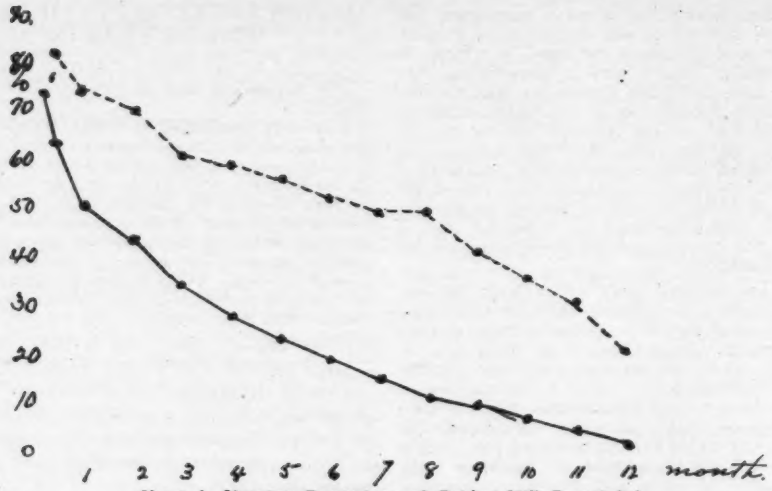

Chart I—Showing Percentage of Babies Still Breast-fed at a Given Month

Stanford Clinic—125 babies - - - - - -
Health Center —327 babies ————

Without exception, the facts emphasize the advantages of breast-feeding.

Faults in Substitute Feeding—Cow's milk, variously modified, is the general substitute. The milk supply of San Francisco is pasteurized, certified, condensed, or dried milk. As is shown in the following chart, nearly one-half of the children are fed pasteurized milk, condensed milk stands second with 21 per cent, and certified milk, which should be at the head of the list, is third with 15 per cent. (Chart III.

Chart III—Substitute Feeding
Basic Material

	Per cent	Cases
Pasteurized milk	46	173
Condensed milk	21	77
Certified milk	15	55
Malted milk	6	20
Goat's milk	2	7
Dried milk	1.5	6
Boiled milk	1	4
Protein milk	0.3	1
		343
Modifiers		
Dextri maltose	40	116
Farinaceous foods	29	82
Sugars	20	56
Miscellaneous	11	32

Regarding the different kinds of milk and the modifiers, some findings are not clear-cut because the mother feeds one thing for a time and then tries something else. There were two patients in which most of the prepared foods had been tried. Such cases are not included in the table. Where any one food was used for two or three months the case is included.

Of the milk modifiers used in 340 cases, the dextrimaltose mixtures were the most popular (40 per cent), with the farinaceous foods second (29 per cent). The tendency is to increase the quantity of soluble carbohydrates in infants' milk rather than the less soluble and more complex modifiers, which require more digestive time and effort. The health of these infants fed on cow's milk under its different treatments is shown in the following table. No breast-fed case is included. The diagnosis of rickets was made in patients which showed the presence of Harrison's groove, or an especially large fontanelle for the age.

The state of nutrition for purposes of this report was determined by the Children's Bureau charts.

Muscle tone was tested by the firmness of the calf and thigh muscles and by the general firmness of the abdominal wall. The findings are shown in Chart IV.

Chart IV—Health Comparisons on Various Foods

	Breast-fed 220 cas.		Pasteur. milk 133 cas.		Certified milk 50 cas.		Cond. milk 46 cas.	
	Cas.	Pct.	Cas.	Pct.	Cas.	Pct.	Cas.	Pct.
Good tone	211	96	124	93	47	94	40	87
Poor tone	9	4	9	7	3	6	6	13
Good nutrition	213	97	123	93	41	82	40	87
Poor nutrition	7	3	10	7	6	13	6	13
Constipation	23	10	13	10	9	18	23	50
Diarrhea	2	1	6	5	..	..	2	4
Vomiting	6	3	5	4	..	..	1	..
Rickets	3	1.5	8	5	..	..	3	7
Colds	6	3	3	2	6	12	6	13
Eczema	6	3	7	5	4	8	6	13
Impetigo	4	2	..	..	..	..	4	9
Dermatitis	5	2	4	3	..	..	5	11
Other rashes	12	6	5	4	2	4	12	26

It is very evident that the breast-fed infant has better health than has the artificially fed one. Skin eruptions are less numerous. Certified milk seems to fail in maintaining nutrition. But an analysis of the cases shows that more children starting life below the average of 7¼ pounds were fed on certified milk than on any other food.

Comparison between the value of breast and artificial feeding by the average gain in weight per month, in fifty-three cases each, is shown in Chart V.

The patients in both groups were taken as received without the slightest selection. This chart presents dramatically the outstanding advantages of early breast-feeding. The data also brings out the importance of breast-feeding. It does not indicate that artificially fed infants, under a physician's supervision, do not develop on cow's milk as well as on the breast, but it does indicate that breast milk is the better food for the untrained mother to give her child.

Dilutions and Frequency of Feeding—A rough

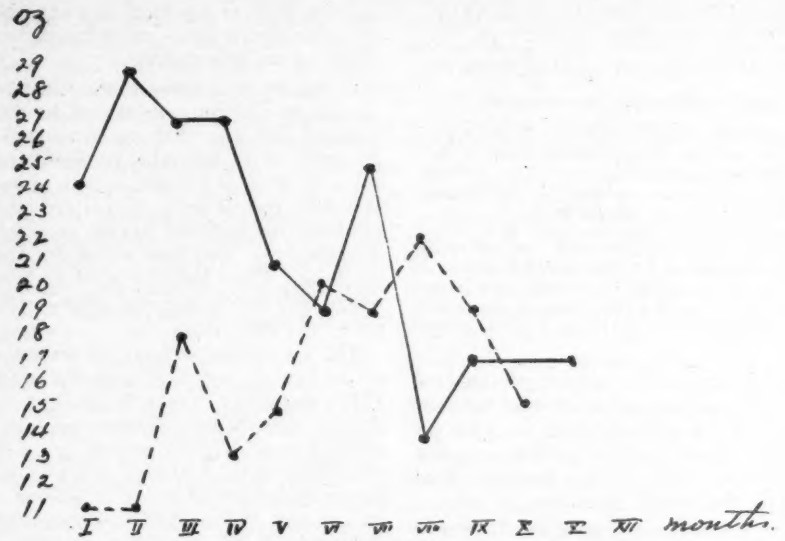

Chart V—Showing Gain in Ounces per Month
53 cases breast-fed ————
53 cases bottle-fed - - - - - -

rule for dilutions as practiced in this service is .4 for the first month, .5 for the second and third months, .6 for the fourth to sixth month, .8 for the sixth to ninth month, and whole milk at the tenth month. Using this scale as a basis for criticism, fifty-one infants were taking overdiluted formulas, and thirty-three infants underdiluted food. This may be due to the fact that the mother receives a formula on leaving the hospital and continues to use it throughout the coming months without increasing the milk element.

Comment and Conclusions by Doctor Adelaide Brown—First—Breast feeding is not worked for in the general hospital as intensively as it is in the teaching hospitals. The majority of these infants were delivered by private physicians in hospitals. Thirty-five per cent of weaned babies at the end of two weeks is not necessary and is reducible. When the three elements—the doctor, the nurse, and the mother—work to secure breast milk for every baby this figure will shrink to 15 per cent or less weaned at two weeks. Perhaps it is not out of place to quote Sedgwick's rules to secure breast feeding:

"Five essentials for satisfactory breast feeding:

"1. Conviction on the part of the physician that the mother can nurse her baby.

"2. Conviction on the part of the mother that she can nurse her baby.

"3. Stimulation of breasts at regular intervals.

"4. Complete emptying of breasts, if necessary, by manual manipulation after each nursing.

"5. Patience and perseverance."

Second—Breast feeding is more attainable under medical guidance. The depression in quantity comes in the tenth to the twenty-first day, and tact and encouragement and rest in the recumbent position, at least while nursing and also for two hours in the afternoon, have gone farther in my hands in restoring a normal flow of milk than overfeeding with liquids. Unsupervised artificial feeding impresses us, from these statistics at the best, as unsatisfactory. A complementary bottle may be given the baby, but the complete emptying of the breast at regular intervals is necessary to an adequate flow of milk.

Third—Some outline of increase in food should be given the bottle-bed baby on dismissal from the hospital by its physician. If the patient cannot afford to keep a well baby under medical supervision, she could be referred to a health center. At least a book on infant hygiene should be recommended. We have yet to see one which endorses condensed milk as an infant food, and yet 21 per cent of these babies appeared at the health center on condensed milk.

Fourth—A baby at six months on the same formula as at two weeks, increased only in quantity, is a commentary on lack of interest somewhere. A check-up by a visit at three months and five months, if suggested by the physician, would be met by the mother and gladly paid for.

Finally—Only these conclusions can be impressed on us who run health centers, either private or public; that is, that the mother needs to be taught, that she is very co-operative and teachable, and that as long as 35 per cent of these babies are weaned and 20 per cent of them on condensed milk, we can hardly feel that we, as physicians, are using all we know for the benefit of the health of the babies of the state.

"The fundamental thought in F. M. Alexander's work," says Peter MacDonald, in British Medical Journal, "is that health, physical and mental, depends upon a co-ordination of the whole body, and that disease is largely due to a failure in this co-ordination, and that this failure is chiefly due to a continuance on the part of man to rely upon instinctive control of the functions of the human mechanism; that, whereas instinct was a sound guide in the stable or slowly changing environment in which man passed his more primitive life, it is unsound in the unstable and rapidly changing environment of latter-day civilization, and for it must now be substituted a conscious control."

Scarlet Fever Toxin—Scarlet fever toxin has been furnished by the John McCormick Institute to some city and state health departments. Physicians inquiring for this material should apply to their local health department. There is an increasing demand for standardized toxin that the Drs. Dick believe should be met; however, because the toxin must be standardized on human beings, the commercial companies are going to find it difficult to standardize accurately.—Journal A. M. A.

WHAT DOCTORS SHOULD KNOW ABOUT THE STATE'S ASSISTANCE TO ITS DEPENDENT CHILDREN *

By GENEVA S. ORCUTT, San Francisco

Compared with other states, California is generous in its allowance in regard to the permissible financial holdings that an applicant may retain.

The state's first policy is to maintain the family as an independent unit with the existing parent.

I feel sure you will agree that these 4831 families present to the medical profession and to the citizens of our state a joint medical and social duty which is a fact we are obliged to accept; and that, in order to send forth a better generation, these families must have all the specialized care and amelioration which we can possibly provide for them.

How many physicians who are actively engaged in the practice of medicine are aware that the state of California is today administering financial aid to 11,726 children, involving 4831 families, and that the last legislature set aside for this purpose a fund of $2,600,000 for the coming biennium.

California has given aid to dependent children in orphanages since 1879, but only since 1913, when the Children's Department of the Board of Control was created, has aid been extended to needy children outside of institutions.

This far-reaching problem includes the child from birth to 16 years, and as about 80 per cent are California born, there is presented to every locality a special duty for the study and development of these children.

These families are distributed within the boundaries of our fifty-eight counties; therefore, not one of you can feel that medical assistance for any of these is out of your particular zone. These children have become eligible for financial help because they come within the classification of orphans, half-orphans, or abandoned children (including many illegitimate).

There has recently been added another group thus included because the wage-earning parent has been found to be incapacitated for gainful work by permanent physical disability, or is suffering from tuberculosis in such a stage that he cannot pursue a gainful occupation. Of the requirements of this group, I will make a special comment later.

The law requires that these children shall have been born in the state or have acquired a residence of at least two years. In some states this subsidy receives the title of "Widow's Pension," but in California the term is a misnomer, as the grant is specifically given as an aid for dependent children, and is sometimes given to the offspring of a very needy father who has become widowed.

The granting or denial of state aid is based upon the social and financial findings of the social workers of the State Bureau of Children's Aid, or those from well-known agencies authorized by the state to make the initial investigations. In the large cities or in counties where social work is well organized much of the investigation is done by the local agencies, leaving cases in which decisions are difficult to make, and the work of the rural districts where there are no social organizations, to be handled chiefly by the agents of the department.

Compared with other states, California is generous in its allowance in regard to the permissible financial holdings that an applicant may retain. Property up to the value of $2500, providing the site is to serve as a home, or cash up to the amount of $1000, are the limits as provided by the Board of Control. An applicant having property within this limitation may also have a few hundred dollars in the bank. These holdings serve to help the family retain their self-respect and likewise eliminate them from the pauper class.

The state's first policy is to maintain the family as an independent unit with the existing parent. When this policy cannot be executed, relatives or a licensed foster-home is the next recourse, and last oll an institution. Of our present group of 11,726, as previously stated, 10,872 are residing with the parent, guardian, or are in a licensed foster-home, leaving but 854 in child-caring institutions at the present time.

The amount of state aid allowed is $10 per child per month, and in Statute 2283, Political Code, there is a clause which reads to the effect that, in addition to the amount paid by the state, a city, county, or town may pay an amount equal to the sum paid by the state. On this platform the state and the county endeavor to share in their responsibility, and as a result there are frequently available public funds to the amount of $20 for each definitely needy case. It is regrettable that supplemental aid is not more uniform throughout the various counties, but a system of education has been broadcast which undoubtedly will elevate the deviating standards in time.

Available public funds, plus the wage-earning capacities of parents, relatives and older children, and occasional assistance from other philanthropic groups are sources from which the budgets for the state-aided families are outlined. As an example: for a family consisting of a mother and three children, $60 public funds are available, if conditions and rulings warrant the grant.

If the county does not supplement an amount equal to that of the state, the family must subsist on a smaller and perhaps an inadequate income.

The food budget for children and parents of varying ages, which Professor Jaffa, nutritional expert for the University of California, has devised, has been accepted by the Bureau as its standard for estimating the necessary outgo for food. Racial conditions are taken into consideration as a cause for variance in this regard, and those who are busy with the study of human problems maintain a wide difference of opinion on this subject. Social workers, as well as others, are frequetly inclined to feel that various groups having a low standard of living do not require an expenditure for food comparable with that of American families.

The story has been told that when Professor Miller of Harvard University once appeared before the United States Department of Labor on this subject he made the following inquiry:

"Mr. Secretary, when you and your trained staff

* Presented at the meeting of the California Association of Medical Social Workers (a section of the Technical Specialties Section of the California Medical Association), Los Angeles, May, 1924.

of statisticians get to heaven—as of course you will—I trust that you will put them to the task of determining how much milk and honey are necessary to maintain an adult saint for 10,000 years, and after you have made your calculation, remember that it requires just as much to maintain a black saint as it does to maintain a white one."

The crux of this lies in Professor Jaffa's statement that it requires "just as many calories of energy for a certain piece of work, whether it is done by a Mexican, an Italian, a Greek, or an American, and it takes as much food material of the right kind to build a pound of Mexican flesh as it does a pound of American flesh."

The food costs, as estimated by Professor Jaffa, are representative of the prices in all parts of California, as the budget is revised periodically for this purpose. Other items for decent living conditions are taken into account, and when all is assembled a plan for the family is submitted for the state's approval.

It is practically at this point that the medical profession and the social workers' paths unite. One is definitely dependent upon the other for guidance and assistance. Doctors of all specialties, clinics of all descriptions, and hospital care of every known kind are sought, realizing that without the slogan, "Perfect Health," public funds will be forever administered in vain.

The provision in the Orphan Aid law, as amended by the legislature of 1921, provides for the children whose wage-earning parent has been found "to be incapacitated for gainful work by a permanent physical disability or is suffering from tuberculosis in such a stage that he cannot pursue a gainful occupation." For the first group, namely, the physically disabled, the department has been obliged to make certain rulings and devise standards which would serve as a guide to all concerned. Since the passing of this amendment of 1921, the families of 112 cases have been aided, involving 397 children. In thirty-two of these families the children have also received medical attention. It was deemed that the disability must be permanent or complete and based on a diagnosis of a physician, preferably one connected with an accredited health center clinic, or hospital.

Many inquiries have been made regarding the possibility of granting aid to temporarily incapacitated fathers, or to fathers permanently but not completely incapacitated. Because of the difficulty of adequate supervision that would confront the state, the Board felt that such cases must be subject to local supervision, which can keep a constant check on financial and health conditions. Designated as eligible have been cases of blindness, paralysis, locomotor ataxia, carcinoma, arthritis, cardiac, nephritis, epilepsy, syphilis, encephalitis and leprosy. The present number of current incapacitated cases is 87, making eligible for aid 276 children under the provisions of this clause. In isolated counties the granting of state aid has often, subsequent to the visit of the agents, meant hospital care for the father and preventive plans for other members of the household. Long years of suffering and of hardship involving neglect of children and serious difficulties for mothers have, through the fulfillment of the intent of the act, suddenly culminated in a hopeful outlook and a certain income.

The other clause of the constitutional amendment, as previously stated, applies to the children of fathers suffering from tuberculosis "in such a form that they cannot pursue a gainful occupation." The necessity for this provision was brought to light by the first statistical findings of the Children's Department, when it was ascertained that 27 per cent of all deaths of parents of dependent children were due to the white plague, and that, in the majority of such cases, parent and children had been in contact until the patient was in an advanced and communicable stage of the disease. A vicious circle of dependency and illness was obviously being formed. In formulating its rulings here, the Board of Control sought the counsel and advice of tuberculosis experts, and it was concluded that to make the law effective in its ultimate purpose there must be brought about in every case a plan for the separation of the afflicted parent and his children. In many instances this has entailed much persuasion on the part of local workers and the agents of the department. In each case an alternative is offered: the admission of the father to a sanatorium or to a home where he may not be a source of infection, or the placing of the children in a foster-home or child-caring institution. County organizations at first felt that the state should take on every case of dependency due to tuberculosis, regardless of whether the plan for separation has been effected, but more and more they are acknowledging the wisdom of the Board's rulings and realizing that they are effective in bringing about a better home condition. Under this classification, 110 fathers suffering from tuberculosis have had their families aided, involving 349 children. Only one of these has been placed in an orphanage, and 91 were given special medical attention. Thirty fathers have died and aid for 106 of the above is now allowed under the half-orphan status. The present number of current tubercular cases is 80, necessitating aid for 225 children.

A large number of these were found requiring temporary care afforded by convalescent homes and preventoria. However, a greater proportion were able to remain in their normal family group. One fact is obvious: that too many of these fathers were in an advanced stage of illness and soon succumbed to its ravages.

It should be the purpose of the state and local officials to so educate the public that they shall understand that state aid will be granted when the disease is in its incipient stage, provided that a physician recommend that the parent refrain from work and provided that he conform to the rulings of the Board of Control, in every case special emphasis being placed on home care for the child rather than the father.

In a little study recently made on sixty-eight obsolete cases the findings were as follows:

29—restored to health.
32—aid withdrawn (having been granted for periods of 6 months to 2 years).
7—died.

Closely dovetailing with this part of the work came the setting aside by the legislature of the sum of $200,000 biennially to provide hospital service and treatment for needy legal residents of the state. The bill was written by the University of California Hospital in collaboration with the Board of Control, and has made available expert medical and surgical care for such baffling and difficult cases as could not be bettered or cured under the treatment of local physicians. This fund has been divided into monthly allotments and is very quickly exhausted. This fact accentuates the need of more specialized hospital care for children in our numerous county hospitals throughout the state.

We all agree that orphanage care is necessary for certain types of children, and aside from the aid paid directly to institutions, the state also licenses and exercises supervisory care over them. Again, we meet the medical profession on a common ground, for it is rightfully conceded that where numbers of children are housed together a higher standard of physical surveillance is demanded. And here may we ask for even a closer co-operation in the installation of the newer and more preventive types of care.

Orphanages also make their contribution to the study of medicine, in that they afford an excellent field for pediatric research, which in many localities is not used, hence a loss both to the physician and the growing child. We admit that child-caring institutions have been retarded in their desire for more progressive medical care, and a system of education has been necessary by state departments to encourage periodic medical inspection with its subsequent corrective work. The same may be said of proper care and control of communicable disease problems. Much propaganda has been necessary to educate those in charge relative to correct and balanced dietaries.

May it soon be a thing of the past that entrants to children's institutions will present a slip of paper from their family physician which is to serve as a medical certificate that reads: "I have this day examined Johnny and found him O. K. to enter your institution." This does not carry out the standard set by the state, and will not serve as the necessary guide to lay people conducting institutions who must be shown the necessity of the corrective follow-up work. Neither does it assist in the analysis of the physical and moral needs of such children as may come from homes where physical or social maladies have long existed. However, this sin of omission is only one of a few of which the profession may be guilty.

In its relation to the charges of our state and the bureau which dispenses the relief, you cannot wonder why we count you our paramount source of helpfulness. Every branch of your profession has been appealed to at one time or another, and from every county you have responded generously. Public health nurses, social workers of other agencies, and the directors of health departments likewise come in for their share of our appreciation. We are also cognizant of the fact that, in the majority of cases, a very limited financial reimbursement has been yours. It has been the physician who has stood by the family during the illness and death of the breadwinner, and who guided them through this emotional period, and if perhaps a bill were submitted, it would possibly be the last to ever receive consideration.

In closing, I feel sure you will agree that these 4831 families present to the medical profession and to the citizens of our state a joint medical and social duty which is a fact we are obliged to accept; and that, in order to send forth a better generation, these families must have all the specialized care and amelioration which we can possibly provide for them.

624 State Building, San Francisco.

Fatal Anaphylaxis from Hemostatic Preparations (Propaganda for Reform)—Recently a death was reported which was caused by the injection of a hemostatic preparation. It was discovered afterward that the patient was a sufferer from asthma and that the attacks were elicited even by the mere approach of a horse. Because of the importance of determining the anaphylactic possibilities of the various blood coagulants, the Council on Pharmacy and Chemistry had specimens of the following preparations examined: Coagulen (Ciba), Fibrogen (Merrell), Hemagulen (Lilly), Kephalin (Armour), Hemostatic Serum Lapenta (Hemoplastin) (P. D. & Co.), Thromboplastin (Lederle), Thromboplastin (Squibb), Thromboplastin Hypodermic (Squibb), Thromboplastin Solution (Armour), Precipitated Horse Serum (Coagulose) (P. D. & Co.). It was found that all of the specimens contained animal protein (in most cases horse or beef protein was present). In most cases the labels and descriptive literature did not state the precise nature of the coagulant. Since blood coagulants are usually administered as an emergency measure, physicians may overlook the danger and introduce these foreign proteins into a hypersensitive person. The council recommends that all hemoplastic preparations be labeled to show the composition of the product, the character of the protein present, and to contain information which will cause the physician to inquire into the patient's history to learn if hypersensitivity exists.—Journal A. M. A.

Role of the General Practitioner in Preventive Medicine—In a discussion on this subject in the British Medical Journal, Harold Kerr, M. D., says: "The general practitioner undoubtedly constitutes the first line in defense—a line with a great deal of reserve power that has never been put to use. The family doctor is in a unique position for detecting and observing tendencies to depart from the normal, and he knows, best of anyone, the family circumstances, habits and environment, and their influence upon the health of the members. The need, then, for the closest possible co-operation between him and the health department is obvious. For an example, neither the general practitioner nor the medical officer of health can prevent poverty, probably the chief cause of ill health, and certainly of its continuance. But much may be done to mitigate its asperities and consequences by the fullest possible use of existing facilities, many of them provided through the health department. Even if the general practitioner is not fully conversant with all such agencies in his neighborhood, he can always obtain information about them from the medical officer of health, if the latter is worth his salt."

Don't forget that periodic examinations followed up by adequate service is still one of the most important functions of the family physician. It requires no special paraphernalia or super-skill, and the results are worth while in the conservation of health and the prolongation of life.

REMARKS ON BANDAGING

By LLOYD A. CLARY, M. D.

It takes much practice to be able to apply a bandage properly, but it is well worth while to learn.
Bandage should stay on until you are ready to dress the part again.

It may seem that the subject of bandaging is too trivial to engage the attention of the medical practitioner. True, it is an elementary subject, taught as part of the course in minor surgery at our medical schools. Being elementary, it is a subject treated as many other elementary subjects are treated, namely, slighted—passed over as not worthy of serious thought. The consequence of this attitude is that many of our profession put on a bandage in a slipshod, crude manner.

I do not believe it is beneath the dignity of any practitioner of medicine—even the greatest surgeon—to put on a bandage; but I do believe it is beneath his dignity to put one on carelessly. Consequently, I offer no apology for presenting these few remarks designed to call attention to the art of bandaging in general and some practical features in particular.

To my mind it is lamentable that the medical student is not more thoroughly trained in putting on a bandage that looks neat, that accomplishes the purpose for which it is put on, is comfortable, and *stays* on. The same may be said of student nurses. If you do not believe that the average nurse, student or graduate, puts on a miserable bandage, just observe her work for a week around any hospital. Her efforts are haphazard to a degree.

There may be some excuse for the nurse. She is not called upon to use the bandage as frequently as the doctor, unless she be an office nurse in an office doing industrial or other accident work. A nurse so placed may be—generally is—very adept through much practice. I have seen office girls, with no training as nurses, who were very expert in this art.

As for the nurse, the fault is not so much with herself as with the management of the hospital where she trains. How many hospitals really teach their student nurses how to use a bandage properly? Again, how many supply her with proper bandages? Many hospitals buy their supplies with the idea of cost paramount. These hospitals purchase large quantities of bandages of inferior quality, little attention being paid to sizes. Ask a nurse to bring you a bandage for a finger and see how many times she brings a bandage two, two and a half, three, or even *four* inches wide—and it very likely is made of the flimsiest, wide-mesh gauze. She is not to blame—there are no narrow bandages to be found.

What does your patient think when you attempt to use such a bandage on his finger? Have you made a good impression? Perhaps you call for a knife, and with it saw the bandage in two. A ragged, frayed excuse for a bandage results. Compare your patient's attitude when your bandage slips off and he comes in next day with one he has put on himself, to his attitude when you put one on that stays and is neat and comfortable.

A patient said, "Doctor, you sure do know how to put on a good bandage." Was that compliment worth while? Was it too trivial a matter to justify the care necessary to elicit it? I do not think so. We are judged many times in the more important undertakings of our profession by just such little things.

It takes much practice to be able to apply a bandage properly, but it is well worth while to learn.

Many enlisted men in the medical departments of the army and navy can give the average medico cards and spades and still take all the tricks in bandaging. Why? Bandaging has been hammered into them by constant practice; it is considered an important subject; mistakes are criticized severely. The recruit at bandage practice who puts a bandage around a patient's neck that nearly chokes the patient is called down by his non-com. in language he surely will remember; he will not make that mistake again. A little of such drill would be good for our medical students and student nurses.

I am not going to review the rules of bandaging or go into detail as to the various forms. Any good book on minor surgery gives explicit instructions, with beautiful cuts showing how to apply spiral reversed, spica, gauntlet, T-bandages and all the others. I do wish, however, to emphasize a few things I have learned about bandaging from practical experience.

1. First, as to cost.

In this day of expensive living it behooves the doctor to economize on surgical supplies when he can. That does not mean he shoud use inferior goods. However, it is surprising the difference in cost even between the one and a half and the two-inch bandage. The one-inch bandage costs even less. I have been in doctors' offices where there was no bandage smaller than the two-inch. That bandage is, perhaps, the most useful for all purposes, if we limit our supply to one size. But there is no reason why it should be used for fingers, when the smaller sizes are better adapted and so much cheaper. A saving of from 25 to 50 cents a dozen means considerable in a year. The point is to use a bandage just wide enough for the part to be covered, and no wider. This makes for neatness, as well as low cost.

Some practitioners buy the wide rolls of bandage—24-inch—which they cut with mitre-box and saw into whatever widths they wish. That is the cheapest way to buy bandages. To my mind, however, these bandages represent economy carried to an extreme; they are apt to give a ragged, frayed appearance, with strands constantly coming off on the clothing.

2. Free-end or loose-end bandaging. (See illustration No. 1.)

In putting on a bandage one of the most important considerations is to have that bandage stay on until you are ready to dress the part again. It is very embarrassing to have a bandage slip off within a few hours after it is applied. I never have seen the point I am about to cover mentioned or illustrated in any text book; it is one of the things I have learned from experience, and I am frank to say the suggestion came from a patient.

Let us say you are going to bandage a hand and wish to start your bandage around the wrist. In place of making one or more turns around the wrist in the usual manner, if you will start with, say, six inches of bandage hanging loose—or, in other words,

start some six or eight inches away from the end of your bandage, allowing the end to hang free, make one or two turns around the wrist (one turn below and one above the loose end), continue with your bandaging of the hand and come back to the wrist in the usual way, make a turn or two around the wrist again, then tie to the loose end—*your bandage will stay on.* The explanation is simple. You have tied two ends together, one of which comes from the buried portion of the wirst turns. Consequently, that loose end is anchored in place by the turns covering it, and it keeps your upper or outer end from slipping. This loose-end method is applicable to practically all bandages. Since adopting this method I have mentioned it to a number of surgeons, but none of them had been using it.

Another advantage in leaving the loose end is in the use of a bandage for one or more fingers, where you wish to start the bandage around the wrist. In coming down to the finger make your bandage start down directly over the middle of the dorsal surface of the wrist, after a turn *above* the loose end, finish your finger bandage, then return in the same place to the wrist, pass *above* your loose end again, then around the wrist and tie. You thus have the "pull" from the wrist over the back of the hand in the mid-line. Your bandage is not sagging on either side of the hand, as it usually does if not so anchored.

3. Finger bandaging. (See illustration No. 2.)

The vast majority of our accident cases involve the hands, especially the fingers. With all our experience in dressing fingers, it seems we should learn to dress them properly.

Quite recently I had the fingers of both hands badly burned. It was necessary for me to dress my own fingers frequently, sometimes three or four times daily. I found that when I put on a bandage myself it felt much more comfortable—even stayed on better—than when applied by any one of the doctors who dressed my hands from time to time. As for comfort, the trouble seemed to be that the bandage was applied with too much tension in one or more of its turns, and the doctor sometimes hurt me by pressure while applying it. Once in a while the doctor would jump from base of finger to end, or vice versa, with his bandage in a random sort of way, and this always created uneven pressure. Of course, we all know that the hat salesman never puts a hat on our heads the way we want it on. We must readjust it to suit ourselves. Perhaps that same feeling of wanting to do things my own way had something to do with the discomfort. Still, I do not think I was excessively finicky—burned fingers are darned sore.

As for the slipping off. It seems rather ridiculous to put a bandage on a finger that is covered with ointment, and anchor the end of the bandage with a scrap of adhesive plaster. The ointment is sure to work through and the plaster's adhesive properties soon are lost. Better leave the end of the first turn loose, as described above, and tie on the dorsal surface. The knot is small and your bandage will "stay put." Thus applied, it does not have to be uncomfortably tight in order not to slip.

Another thing I noticed about my fingers. They were tied up so long that, quite naturally, they became stiff. But one finger would progress more rapidly

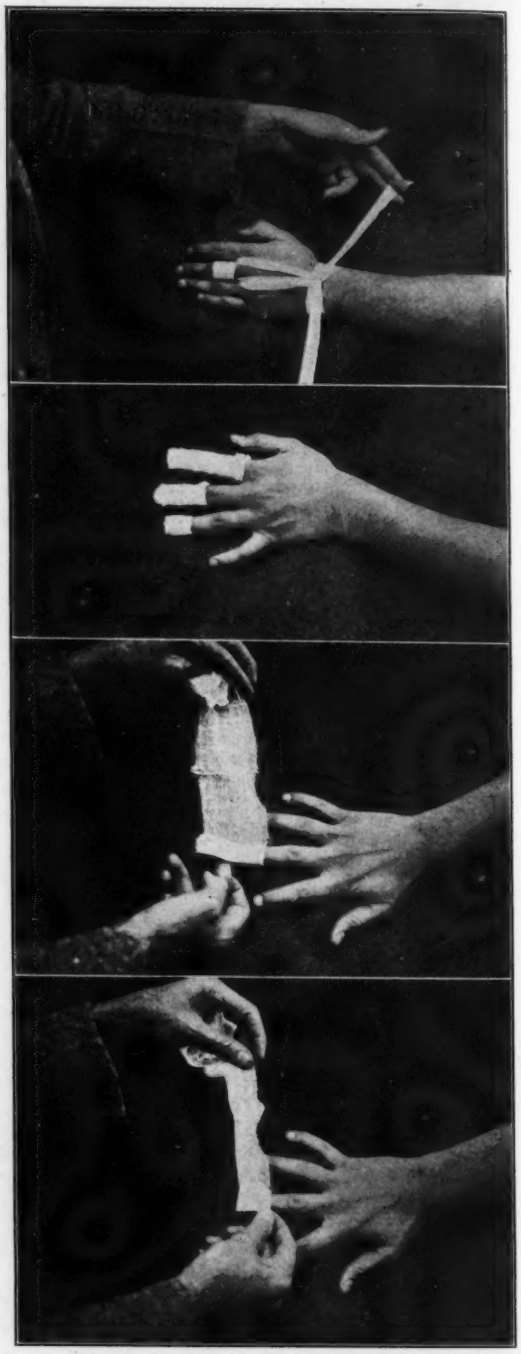

Illustration No. 1—This shows "loose end" bandaging. The end held between two fingers on the left is the "loose end," or bottom. It is the first turn of the bandage around the wrist, and, when tied to the other end, anchors the bandage firmly in place and prevents slipping. This illustration also shows how this method prevents the bandage from slipping off, sagging at the sides of the hand as the strands from the finger are both passed above the "loose end," pulley-wise, the "pull" from the wrist being in the mid-line.

Illustration No. 2—In this illustration the index finger is immobilized in both joints. The middle finger is immobilized in only one joint, the second. The "loose end" method (see illustration No. 1) is used on both these fingers. The photograph shows that this method is applica-

than its neighbor. Consequently, when two or more were included in one bandage, the finger that was healing most rapidly was being limited in motion and held back by the others. So, to allow freer movement, I started bandaging each finger separately. From that moment they became more comfortable. Two or more fingers bandaged together are held rather stiffly. The same fingers bandaged separately may be moved independently of each other, and much nerve-wracking muscular tension thereby be avoided.

Wrap up even a normal finger for weeks and months, and you are sure to get muscular atrophy and stiffness. If the finger is not normal, but is burned or infected, you have, in addition, a certain amount of destruction of tissue with scar formation. In my case the cicatricial tissue was on the dorsal surface. Consequently, it was not only difficult to flex my fingers, but also very painful, for the tissues did not "stretch" well. Quite evidently the thing to do was to begin passive and active motion as soon as possible. Bandaging each finger separately aided in carrying out these exercises. But I did not stop there. I began to crowd my bandages farther and farther towards the ends of my fingers. When healing had progressed to the point where I could leave the first joint uncovered, I applied my bandage distal to that joint. Thus I allowed motion in the first joint, and the stiffness disappeared more rapidly. The same applied to the second joint. The soreness and infection, lingering longest about the nails, necessitated keeping the nail covered longer than the rest of the finger. But there was no sense in bandaging the whole finger just to cover the nail, for, in so doing, *two* joints would be immobilized. It is no trouble to apply a small bandage around the third phalanx and make it stay there. Such a bandage does not interfere with motion, excepting to some extent in the last joint. When the bandage is finally removed the finger has regained its normal function to a much greater extent than with the customary bandage, which limits motion in both the joints.

In place of the recurrent turns of bandage over the end of a finger, which are rather bunglesome if we wish merely to cover the third phalanx, it is quite easy to make a few turns with gauze around the finger, allowing the gauze to project well beyond the end of the finger to form a cylinder of gauze. This cylinder of gauze is turned back over the dorsal surface of the finger and affords a covering for the tip of the finger. It is held in place by a small circular bandage. (See illustrations Nos. 3 and 4.)

There are well-defined rules of bandaging. The rule to "let the bandage go where it wants to go" is one of the best. But with all the rules, each surgeon will develop more or less a technic of his own in applying a bandage. My plea is to make that technic as nearly perfect as possible; to avoid slovenliness in bandaging; to give the subject the thought it deserves. The surgeon who learns to put a bandage on properly will have, as his reward, the consciousness of a job well done. In addition, he will have a grateful patient.

ble to fingers, as the knots are not conspicuous or cumbersome. With this method there is no fear of slipping off. The ring finger is bandaged distal to the second joint, to show that it is not necessary to cover the whole finger when the trouble is confined to the terminal phalanx. The subject used had short terminal phalanges, and the one-inch bandage used encroached somewhat on the second joint. However, the finger could be flexed at that joint. This picture illustrates the method advocated of bandaging the fingers separately and of crowding the bandages towards the ends of the fingers as soon as possible.

Illustration No. 3—Shows cylinder of gauze around distal phalanx and projecting beyond end of finger. When turned back, forms covering for end of finger and pad over nail.

Illustration No. 4—Shows cylinder of gauze turned back. Dressing completed by a turn of the gauze shown in left hand, followed by a few turns of narrow bandage and a strip of adhesive.

TWO YEARS' EXPERIENCE WITH MERCUROCHROME—220 IN OPHTHALMIC THERAPEUTICS.

By M. F. WEYMANN, M. D., Los Angeles, Calif.

In corneal ulcer, if infected, the mercurochrome aids greatly in getting the ulcer clean and seems to stimulate the growth of epithelium as does scarlet red on skin ulcers.

In chronic dacryocystitis where there is a mucopurulent discharge from the sac it may be changed to a simple mucus discharge in a couple of days by the instillation of the mercurochrome solution.

In summing up, one may say that in the 2 per cent solution or mercurochrome we have an unusually non-irritating and penetrating powerful antiseptic for use in ophthalmic therapeutics.

Mercurochrome is not to be thought of as a substitute for any of the well known therapeutic agents which we now possess, but rather as a valuable addition to our present remedies.

Two years ago my attention was called to the use of mercurochrome in a case of serpiginous ulcer of the cornea and the results were so satisfactory that I have used it almost continuously since that time in various other affections. Several facts were noted which may prove of value to those who have not yet used the drug extensively.

Mercurochrome is one of the dye antiseptics, and for this reason is disliked by many ophthalmic surgeons. But if one is careful in its application, staining of the outside surface of the lid may be prevented. Coating the skin surface with vaseline before application helps in this regard, or the stain may be removed by the use of two per cent potassium permanganate solution followed by five per cent oxalic acid solution as recommended by the manufacturers.

I used a two per cent solution of mercurochrome, made up fresh every week, and kept in an amber or blue bottle. Upon instilling a drop of this into the normal eye it is noted that there is no staining of either conjuctiva or cornea. Any mucus present will stain a deep red. Where the corneal epithelium is only so damaged as to stain slightly with flourescin, and the deeper portions of the cornea are normal, there will be no staining with mercurochrome. But if the epithelium is entirely denuded with the corneal substance exposed there will be a deeply stained area. Even though the epithelium be intact over an area of active deep infiltration of the substance the dye will penetrate and stain this affected area.

Clapp and Martin have discussed the use of mercurochrome in gonorrheal ophthalmia, and Lancaster et al in the pyogenic infections. Their results lead them to draw very favorable conclusions. I have found that in the acute catarrhal conjunctivitis cases, particularly those where the pneumococcus is found, the discharge clears up most rapidly under the use of the ordinary silver nitrate solution followed by the mercurochrome, after the excess silver nitrate has been washed away with normal saline. It has also

been the experience of several of the genito-urinary specialists that the silver and mercurochrome solutions seem to have a synergistic action. It is well to get rid of the excess silver for a red precipitate is formed by mixing a mercurochrome and silver nitrate solution, as is also the case with sodium biborate, cocain, atropin, holocain, and zinc sulphate solutions. Boric acid solution gives no precipitate.

In numerous patients whose refractive error was well corrected and whose conjunctiva appeared normal on inspection, although they complained of a burning discomfort or sandy feeling, it was found that the instillation of the mercurochrome solution revealed several areas in the conjunctiva which stained red. These areas were more often to the nasal side and were not due to the presence of mucus, for they could not be wiped off. From the action of the drug in staining a corneal infiltrate it seems reasonable that these areas may be slight subconjunctival infiltrations. At any rate, after the use of mercurochrome for several days the staining would disappear and the patient would become comfortable.

In corneal ulcer, if infected, the mercurochrome aids greatly in getting the ulcer clean and seems to stimulate the growth of epithelium as does scarlet red on skin ulcers. The area of a deep ulcer will stain with mercurochrome long after it has been covered with epithelium and refuses to stain with fluorescin. In these cases the clearing of the opacity seems to be hastened by the daily application of mercurochrome until there is no further staining. In one patient where the ulcer had penetrated to Descement's membrane it was found that this "glass membrane" forming the floor of the ulcer was not penetrated by the mercurochrome, that is, it remained unstained while the walls were deeply colored. No matter how long the application of the drug was continued there was never any permanent staining of the tissues as one gets with the silver preparations. When used in interstitial keratitis the cornea assumes a red stippled appearance because of the staining of the separate areas of infiltration. The penetration of a mercury compound in this condition would theoretically seem desirable and, although there was no method of control but previous experience, it seemed that the clearing of the cornea occurred more promptly when the mercurochrome was used in conjunction with the usual treatment. In phlyctenular keratitis the use of the mercurochrome did not seem to have much influence on the course of the disease.

In trachoma, except in some few patients where the mercurochrome proved to be a definite irritant and had to be discontinued for the patient's comfort, it has acted here as in the treatment of conjunctivitis, as a synergist in combination with silver nitrate. It is especially of value in those cases where there is much discharge.

In chronic dacryocystitis where there is a mucopurulent discharge from the sac it may be changed to a simple mucus discharge in a couple of days by the instillation of the mercurochrome solution. On the next day after the use of the drug the discharge expressed will have a deep red color, indicating the presence of the latter. After probing the duct a few drops of the mercurochrome solution in the saline used for irrigating through into the nose will help to prevent infection and by its color will tell if the solution passes to the nose. In order to see if any reaction would occur should the dye pass into the tissue, several minims of the two per cent solution were injected beneath the conjunctiva of a globe that was to be later removed for absolute glaucoma. There was some pain at the site of the injection and slight edema occurred. But within three days the red color had entirely disappeared and the area appeared as before injection. Since that time there have been two cases in which the solution used as above has passed out into the tissues of the cheek after probing. There was immediately rather severe pain which was controlled by cold applications, there was rather marked edema, but the entire condition cleared within three days in both cases and left no trace of any staining. The temporary discomfort of the patient was the only complication, while had a silver preparation been used, there would have been permanent discoloration.

In summing up, one may say that in the two per cent solution of mercurochrome we have an unusually non-irritating and penetrating powerful antiseptic for use in ophthalmic therapeutics. It acts as a synergist with the silver nitrate solutions, and because of its penetrating power we are furnished with an agency better than any we have previously had for the treatment of infiltrated areas beneath the epithelium of the cornea and conjunctiva. And, best of all, no permanent staining results even after its long continued use.

418 Westlake Professional Building.

DISCUSSION

A. Ray Irvine, M. D. (Westlake Professional Building, Los Angeles)—Mercurochrome has given great satisfaction to me in many cases during the past two years. In dacryocystitis the pus is soon lessened in amount and character, and many acute cases soon clear up entirely.

In pneumococcus and Koch-Weeks bacillus infections, the ethylhydrocuprein and zinc solutions still have first place, but in many forms of conjunctivitis, mercurochrome, as Dr. Weymann uses it, has proven a valuable therapeutic agent with many advantages.

I have had occasion to use it in a large series of folliculosis cases as an adjunct to the silver and zinc sulphate treatment. In those cases in which there was a considerable amount of secretion, the one per cent mercurochrome solution proved of great value.

My experience in its use in ulcers of the cornea has been much the same as Dr. Weymann's.

Lloyd Mills, M. D. (927 Citizens National Bank Building, Los Angeles)—The place of mercurochrome in ophthalmology is not yet defined, but our clinical and laboratory experience proves it to be an addition of value in the treatment of some pyogenic infections of the conjunctiva and of the tear-passages. This experience, however, also shows that mercurochrome lacks the bactericidal and serological potency of silver nitrate, which it can never supplant in the treatment of gonococcic infections. Nor can mercurochrome replace zinc or copper salts in their particular roles.

Mercurochrome appears to give the greatest service in the less virulent conjunctival infections, with or without simple ulceration about the limbus, and as a follow-up treatment where silver nitrate, strong zinc or cabolic acid cauterization, or the actual cautery, have checked severer infection of the conjunctiva and have mastered progressive and intractable ulcerations of the substantia propria of the cornea. Its virtue in so-called catarrhal conjunctivitis and catarrhal ulcers, whether of staphylococcic origin or

due to weak strains of pneumococci or streptococci, is unquestioned. A considerable experience as a reviewer of the end results of true serpent ulcers which have been variously treated by many different men, however, convinces me that precious time and more precious visual acuity too often are lost by attempting to check these virulently progressive ulcerations by instilling solutions such as mercurochrome, ethylhydrocuprein, subconjunctival injections and the like, when strong chemical cauteries, or the more effective actual cautery, should have been used with a bolder conservatism at the first evidence of intractability.

The local use of mercurochrome in infections of the tear-passages should be limited, in my opinion, to those early or chronic cases where ulceration, or its resulting stenosis, are too far advanced and where no great tubal thickening has occurred. Here infection may be checked and stricture prevented by the careful use of sounds when the infection is overcome, and only then. If sounds are passed forcibly and strictures are divulsed or false passages created, mercurochrome naturally will pass into the surrounding tissues. If irrigation seems indicated after such severe instrumentation (and it usually is not) I prefer to use mercuric cyanide rather than a solution which is so vividly dramatic in its subcutaneous appearances as is mercurochrome. In fact, in the majority of cases of chronic dacryocystitis irrigations of any sort can seldom be more than palliative and recurrence is usually merely a matter of time, as the mucous tube is thickened, stenosed and usually is impossible to keep patent for any long period. In such cases mercurochrome is of particular value as a preparation for the needed extirpation of the naso-lachrymal duct.

Dr. Weymann's observation that mercurochrome increases the effect of silver nitrate is of great interest and value, and his application of the remedy to the lesions of interstitial keratitis with benefit is worthy of extended trial and study.

Howard Black (627 University Avenue, Palo Alto)—I have used mercurochrome for about two years and feel that it has an established place in ophthalmic therapeutics. My preference is for a one per cent solution except in the more severe infections, such as gonorrheal ophthalmia, where a two per cent solution is used. In cases of acute catarrhal conjunctivitis, especially where there is a good deal of discharge, I have found the home use of mercurochrome solution a great help, but never as supplanting silver nitrate solutions, which are still my sheet anchor. I believe with Dr. Weymann, that in such cases the mercurochrome and silver nitrate solutions have a synergistic action. In gonorrheal conjunctivitis, of which I see but few cases nowadays, I am sure mercurochrome in two per cent solution, instilled every hour or two, in addition, of course, to the office use of silver nitrate, has definitely shortened the period of active inflammation and lessened the likelihood of corneal complications. In cases of trachoma with much secretion I have found that mercurochrome enhances the effect of silver nitrate, the latter being used in four per cent solution every third day by the "dry method," and the mercurochrome used at home several times a day. In some cases of folliculosis I have found mercurochrome very helpful, following the four per cent solution of silver nitrate.

In recurrent sties mercurochrome is of value in permanently clearing up the condition when used in one per cent solution in conjunction with hot fomentations during the day and applied as a one per cent ointment with massage to edges of lids each night. The same strength ointment is useful also in some stubborn cases of marginal blepharitis.

My use of mercurochrome in affections of the tear-passages has been limited to cases of acute decryocystitis, some of which it has cleared up very quickly, and to those mild chronic cases where a slight amount of mucoid secretion persists despite a sufficiently patent canal as result of probing. In such cases the injection into the sac of a one per cent mercurochrome ointment once or twice weekly and the home use of mercurochrome solution have nearly always proved successful in finally clearing up the condition.

In infected corneal ulcers I never delay the use of chemical cauterants or even the actual cautery, but am very fond of the home use of mercurochrome solution if the eye is treated by the "open method," or by filling the cul de sac with one per cent mercurochrome ointment if the eye be tied up.

I find myself using mercurochrome more and more in place of the time-honored bichloride where an ointment is required in corneal injuries, after the removal of foreign bodies, etc. I think by this change I am getting quicker healing and less permanent opacity, thus being in accord with Dr. Weymann's statement as to the value of mercurochrome in clearing corneal infiltration. In the recent corneal opacities following injury or the "tail-end" clearing of a case of interstitial keratitis I am in the habit of having the patient apply the one per cent mercurochrome ointment with massage once daily. I admit that the staining of the skin when mercurochrome is used in this way is rather annoying to fastidious patients, but if its need is explained, few will make complaint.

Dr. Weymann (closing)—I agree that mercurochrome is not to be thought of as a substitute for any of the well known therapeutic agents which we now possess, but rather as a valuable addition to our present remedies. In the serpiginous ulcers the advancing portion must be halted by destroying the pneumococci in the substance of the cornea, preferably by the thermophore of Shahan, before relying on a solution of mercurochrome to clean up the area. I have never found the two per cent solution more irritating than the one per cent, and have found the former more efficient in its action. As mentioned by Dr. Mills, the solution is ideal for pre-operative antisepsis. I am quite in accord with Dr. Black when he says that he prefers the use of mercurochrome to that of mercury bichloride as I think it is less irritating and more effective as a preventive of infection.

Necessary Scope of the State's Regulation to Make All Doctors Competent—Harry E. Kelly of the Chicago bar, in his article on Regulation of Physicians by law, says: "The state should go no further in restricting the occupation of the physician than necessary, for freedom of action is the goal of the law. What is the least that the state may do in this respect? It is apparent that, logically, it may do nothing less than make it impossible for any person to hold himself out professionally to the public as a healer of any kind until he has demonstrated before some legally constituted authority ample knowledge of the structure and functions of the human body, of its various organs in health and disease, and of all of the valuable remedial agencies known to the world, and prohibit any person from holding himself out as a healer of diseases who has not so demonstrated his ability to discover, within the reasonable limits of the advancement of science, the nature of the disease with which human beings are commonly afflicted, to care for his patients in a scientific manner, and to recognize and prevent the spread of contagious diseases. Manifestly, the state has done nothing until it has thus supplied a doctor with such scientific knowledge and skill."

"Few human passions are stronger than vanity, and there are not many men whose love of truth is so compelling that they can stand up and confess to their fellows that the studies to which they have devoted many years are futile," says Major Greenwood (Lancet).

"Jealousy," says Joseph Collins in The Bookman, "instead of being the exaggeration of one of the most uplifting passions of men, is a pathological condition which fits the possessor for a psychopathic ward and the object for a sanatorium."

CLIMATE IN PULMONARY TUBERCULOSIS *

By CARL R. HOWSON, M. D., Los Angeles

Some very sick patients recover in all climates, however bad, and some patients with apparently slight involvement and favorable prognosis go steadily downward in all climates, however good.

Given the proper care and comforts, climate may in a given case be a determining factor.

It is to be borne in mind that climate is a non-specific remedy, and like all non-specific remedies, acts on the disease through the patient.

The value of the much-lauded pine trees depends chiefly upon the olfactory stimulation by the fragrance imparted to the air in their vicinity.

Precipitation is not of much importance excepting as it affects humidity.

Humidity is of great importance.

A certain proportion of patients derive benefit from sun baths.

Most patients do best at an altitude between 500 and 3000 feet above sea level.

There is not and cannot be an ideal climate for all cases.

The keynote of success in the treatment of tuberculosis is individualization.

Climate cannot take the place of rest, proper food and care, but given these, climate is of great value and may be a determining factor.

"False ideas die hard in the profession."

The care of the patient in the home should always claim first consideration.

In regard to no detail in the treatment of tuberculosis has there been so much controversy as the matter of climate. The time is not long past when it was considered the most important factor, transcending even rest, good food, hygienic surroundings, and the ordinary comforts of life. As a result of the many failures which followed the sending of all patients to certain favored localities, a reaction set in, and the value of climate was discounted to an excessive degree. We have today in the profession representatives of both viewpoints. The physician who believes that climate is all-important, and who lives in the region which he believes to be ideal (usually where he himself has secured arrestment of a tuberculous infection), maintains that all his tuberculous patients should remain there. He who holds the same belief, but who does not live in what is his ideal of climate, prescribes a move to that ideal location immediately the diagnosis is made. That also is very frequently the place where at some time in the past he himself has recovered from the same illness; if he lives in the East, it is likely to be some resort in the West or South—in Colorado, New Mexico, Arizona, or Southern California. If he lives in Southern California, it may be in Arizona or at one of the mountain resorts that the fountain of health is to be found. The patient's financial circumstances are not always considered, and as a result we have the ever-present and pressing problem of the indigent migratory consumptive, journeying from every state in the union to the promised land, there to become a charge on the county or municipality, and all too often with only a hopeless prognosis.

On the other hand there are those who believe that climate is of no value, and that the patient might, therefore, just as well stay where he is, for if it is possible for him to secure an arrestment he will do so in one place as well as in another, and if he is doomed to a fatal outcome he cannot escape it by going elsewhere.

It is true that some very sick patients recover in all climates, however bad, and that some patients with apparently slight involvement and favorable prognosis go steadily downward in all climates, however good. Nevertheless, as in most unsettled questions, the truth is to be found between the two extremes, and I believe we are fully justified in the statement that, *given the proper care and comforts, climate may in a given case be a determining factor.*

But when we come to compare the different types of climate, confusion becomes worse confounded by statistics advanced in behalf of this or that climate, which as a matter of fact prove nothing. In every case of tuberculosis almost innumerable environmental factors and a similar variety of personal factors are involved. Age, sex, marital status, exposure to infection, economic and mental status, occupation, housing conditions, non-tuberculous complications, etc., have a very definite bearing on the activity and course of the disease. These factors are by no means even approximately constant in patients from different localities, and it is quite impossible to segregate them and make comparisons from which we can deduce the effect of this or that climate on tuberculous patients as a class.

It is to be borne in mind that climate is a non-specific remedy, and like all non-specific remedies, acts on the disease through the patient; i. e., its effect is to increase the patient's general resistance, thereby putting him in a better position to overcome the disease from which he is suffering. But we must not lose sight of the fact that there may also be a selective action on the diseased tissue itself, as, for example, irritation of an affected larynx by the extreme dryness or the dust storms of the desert, which may be very pronounced if the soil contains much alkali. Beneficial effect, probably at times on the tissue directly, is seen in the diminution of a profuse broncho-pulmonary secretion in this same climate.

In judging of a climate there is no one characteristic by which it can be rated as desirable or otherwise for the particular case under consideration. Several factors must be considered, among which are purity of air, movement of air, temperature range—both diurnal and seasonal,—precipitation, humidity, sunshine, altitude and storms. Concerning the effect of each or all of these we must confess we have little accurate knowledge, and much of the difficulty is due to the fact that a great deal of the benefit of change of environment may be psychological.

PURITY OF AIR

All are agreed as to the value of pure air and cheerful surroundings, and in a general way it may be said that a favorable climate is one that will permit of a maximum time spent in the open air with a minimum expenditure of effort. The benefits derived from the pure open air consist of the stimulation of the skin and olfactory apparatus and the absence of irritants in the form of smoke, dust, or

* Read before Southern California Medical Society, April 5, 1924.

bacterial contamination. The congested portions of our large cities are thus at once eliminated from consideration as desirable localities.

MOVEMENT OF AIR

Air movement is a most important factor. Too strong winds cause uncomfortable drafts, dust storms, etc., but a moderate prevailing breeze is necessary whenever the temperature is above the point at which there is a distinct stimulation because of the coolness, for unless the air is in motion at such temperatures we know the individual soon begins to suffer from depression and fatigue, whether indoors or out.

The value of the much-lauded pine trees depends chiefly upon the olfactory stimulation by the fragrance imparted to the air in their vicinity. No doubt there is in many cases also a strong psychological element due to the associations and recollections of pleasant times spent in the past amidst similar surroundings and odors—the restfulness of solitude, the soughing and gentle roaring of the wind, and the slippery, yielding crunch of the needles under foot.

TEMPERATURE

In considering temperature we have to take into account two elements—maximum seasonal temperatures and diurnal variations. Extremes of temperature are undesirable when they interfere with the patient's being out of doors. Most patients do better in a temperate climate, but there is a wide individual variation when it comes to tolerance of extremes. Few tolerate the extreme heat of the desert in the summer, but these few may show their greatest improvement during the heat. Those with low vitality do not do so well in the cold climates, but as a rule the cooler the climate, without going to extremes, the better patients will do so long as they can react; that is, so long as they are comfortable. It is a matter of frequent observation in sanatoria in the colder climates that the average patient makes his greatest gain in winter. While the stimulation of the cold may be responsible in part for this, it is probable that other accompanying factors are of more importance, viz., the bright sunlight and the clarity and purity of the winter air. There should be a sufficient variation between day and night to be appreciable and stimulating, but not sufficient to unduly tax the individual's vitality.

PRECIPITATION

Precipitation is not of much importance excepting as it affects humidity. It is possible to have a fairly heavy precipitation with low humidity most of the time. This is particularly true of the colder climates in winter. It has been said of Saranac Lake that any day it does not rain it snows, and that the reason their patients do so well after leaving is because they always go to a better climate.

HUMIDITY

Humidity is of great importance, and the first requirement of a climate is usually that the relative humidity be reasonably low. There should be very little fog, especially of the heavy so-called low fogs which are frequent near the ocean, although this requirement, as practically every other one which may be mentioned, is subject to definite exceptions in certain cases. Some of the patients with marked fibrosis and scanty, tenacious secretion may obtain great relief from an irritating and intractable cough in a region of higher humidity. The combination of high humidity, high temperature and slight air movement is practically never desirable, because with such a combination the evaporation of perspiration is inhibited, body temperature and metabolism are increased, the pulse rate is increased, vasomotor tone and blood pressure are decreased, and there is markedly decreased ability for muscular exertion. It is astonishing how high the temperature, and even the relative humidity, may go without discomfort, providing there is at the same time a constant wind of moderate rate. The extreme dryness of the desert is favorable for most cases with marked bronchitis and profuse expectoration. It is not so good for those with scanty tenacious secretion above referred to or with advanced laryngeal involvement. The condition of the nasal mucous membrane must also be considered, for many patients suffer from "catarrh" in one form or another; those with the dry forms may find the desert air extremely irritating and tending to induce marked nasal obstruction.

SUNLIGHT

We know little about the effect of sunlight in pulmonary tuberculosis, but a certain proportion of patients derive benefit from sun baths. Unfortunately the ratio is not so high as in other forms of tuberculosis. We do know, however, that bright sunshiny days are much more cheering to the average person than dull cloudy ones, and in combating this disease a cheerful frame of mind is to be valued beyond measure.

STORMS

The effect of sudden changes in the weather has not received as much attention as some of the factors already mentioned. While, of course, storms are usually unpleasant and a detriment to any locality, it is not so much the storm itself to which I wish to draw attention as to the atmospheric changes preceding or accompanying it. We are still ignorant regarding the immediate cause of most hemorrhages, but the few careful observations which have been made indicate that the various conditions existing co-incidentally with sudden barometric changes are probably of importance as related to their occurrence in patients who are subject to them—"hemorrhage cases."

Electrical storms, not of the thunder and lightning type but characterized by or accompanying extremely low humidity and marked static conditions, are common in some districts in the Southwest. At such times individuals of nervous temperament may be very uncomfortable, the nervous system being in a state of excessive sensitiveness. Women are usually affected by these storms to a much greater degree than men.

ALTITUDE

We come finally to the great question of altitude, about the value of which so many sanguinary verbal and written battles have been fought, and con-

cerning which we are still largely in the dark. That there is an increase in the red cells and the oxygen-carrying power of the blood at altitudes is beyond question. This latter increase is accompanied by and probably due to greater pulmonary ventilation, the respirations being of an additional depth and frequency directly proportional to the altitude, thus physiologically compensating for the rarefied condition of the air. It has not yet been demonstrated that this polycythemia is of a degree which more than compensates for the atmospheric attenuation.

The dangers of deep breathing or respiratory gymnastics of any type, even in early cases, have long been recognized by most of us, but are still too frequently overlooked by many. These put upon the fibroid tissue in process of forming or already formed about the tuberculous focus a mechanical strain which may result in a rupture or tear, permitting dissemination of the more or less completely encapsulated organisms. The increased pulmonary ventilation required at high altitudes is comparable to respiratory gymnastics, and even with the patient at rest may constitute an element of serious risk. This same added exertion or stimulus may prove to be of advantage in a certain number of patients and bring about more rapid recovery, but which patients will be improved and which hindered by such stimulus is not always easily determined. The more recent the development of symptoms of activity, and the smaller the area of involvement, all other things being equal, the better suited is the case for the higher altitudes. Because of the thin air and the greater muscular effort required for the performance of work, it is difficult for ambulant patients to avoid overexerting to the point of dyspnea and excessive respiratory excursion; strict regulation of their exercise is, therefore, necessary. Patients with extensive involvement and markedly diminished pulmonary area practically always suffer from dyspnea above a moderate altitude.

In a general way, it may be said that most patients do best at an altitude between 500 and 3000 feet above sea level. Cases of chronic fibroid tuberculosis in the early stages frequently do best at an altitude somewhat higher than this. Patients in the acute stages, those with asthma or emphysema, and those with irritable nervous systems should not be sent to a high altitude. When an arrestment is secured at a high altitude, a move to a much lower one must be taken with great care. It is a good plan to make the change by stages, spending a few months at intermediate altitudes. A certain number of persons are never able to make the change without grave risk of reactivation.

It is quite apparent, therefore, that there is not and cannot be an ideal climate for all cases. There may be a climate which is ideal for the individual case. This ideal climate may, however, vary from time to time with changes in the patient's condition. There is no climate which is ideal for any sick individual the year round. A move in summer to a cooler locality, or in winter to a milder or drier climate, is sometimes advisable. On the other hand, it is most unwise for a patient to dissipate his strength making frequent changes of climate in pursuit of the elusive ideal.

In passing it may be remarked that some sections of the southern Pacific coast have a wide range of climatic conditions in close proximity to each other. Within a radius of twenty or thirty miles are to be found seaside, desert, mountain, and various intermediate climates, all of which may be experienced in a ride of an hour or two. It is possible in most cases, therefore, to fit the patient's needs and make a change without a long journey and all that it entails.

THE PROBLEM

How, then, are we to advise the patient who comes to us with the question, "Doctor, do you think a change of climate would be good for me? Do you think I ought to go to Arizona, or Colorado, or elsewhere?"

The keynote of success in the treatment of tuberculosis is individualization, and nowhere is it more urgently needed than here.

The first question to be decided is, "Is a change of climate essential?" Is the patient losing ground; and if so, are any of the climatic factors, seasonal or otherwise, such as excessive heat or cold, high humidity, high winds with irritating dust storms, etc., *present now or likely to be in the near future*, working against him. If in a section subject to fogs, does he feel worse in foggy weather, is his cough aggravated, or does he complain of throat irritation after a foggy night?

If not essential, is a change of climate desirable? How is the patient doing here, and what are his chances for securing an arrestment? If he is making good progress toward an arrestment, even though it be somewhat slow, the answer will be in the negative. It is not wise to interrupt a certainty of present progress for what is at best an uncertainty for the future, for no matter how near the ideal some other climate may be, we have no certain means of determining its effect except by actual trial. Many patients who are making slow but steady progress in one place and move to a presumably better climate to hasten matters do poorly after the change.

If the patient is not doing well, how acute is the process and how advanced? In the acute condition, rest is more important than in the more chronic, and it is seldom wise to move during this stage. If the process is advanced, has it advanced beyond the stage where anything could reasonably or *possibly* be expected to change the prognosis? If so, shall we permit or advise the patient to be subjected to the discomfort attendant upon the journey into a far country or the family to expend their resources, so often sorely depleted, in a palpably hopeless quest? Are there complications, such as cardiac lesions, which in themselves sharply limit the range of the patient's location as regards altitude or other factors.

Much information may frequently be gained by a painstaking inquiry as to the patient's previous experience in different climates. In this way we may avoid the mistake occasionally made of sending him to a place he has previously been where certain factors worked to his detriment. At the same time

one should consider carefully what, if any, changes in his condition have taken place in the meantime, for, as before stated, the ideal climate for any individual may vary from time to time, and he may now benefit by just those factors which before were detrimental.

If the change means separation from his family, will it be productive of worry or excessive homesickness, or will such a change be advantageous in getting him away from a too exacting or overly apprehensive family, from contact with his business, or from well-meaning but fatiguing friends? Will he be able to get a place in which to live? In most places the tuberculous patient is decidedly unwelcome, in many other places also accommodations are very difficult to secure. Will he be able to obtain competent medical attention? If he is ambulant and has to make his own living, will he be able to do so with a minimum of strain? What will be his opportunities for amusement and social intercourse? If adequate, will they be of the proper type? Is his temperament such that he will live as he should in the proposed locality, or will he be likely to take liberties when away from the restraining influences of his home environment or medical advisor? Other questions relevant to the individual case under consideration will suggest themselves.

And last to be mentioned, but first to be considered, will he be able to have the care he requires? If not, he had better forego the climate and keep the care, for now abideth rest, fresh air, good food and adequate medical supervision, and the sum of these is proper care.

SUMMARY

Climate cannot take the place of rest, proper food and care, but given these, climate is of great value and may be a determining factor.

It is impossible even to classify the different types of cases and select a climate for each class.

In every case the individual must be carefully studied and his reactions to the different elements determined as far as possible. His experiences in the past may be of great value, if interpreted in the light of any changes in his condition which may have occurred in the meantime.

307 West Eighth Street.

DISCUSSION

L. S. Mace, M. D. (Stockton Street, San Francisco)—The number of cases of pulmonary tuberculosis in which the therapeutic value of climate is an important factor is certainly small, perhaps 5 per cent. If we except patients with cardiac complications, certain laryngeal conditions, and asthma of the bronchial type superimposed upon a fibrotic lung tissue, I should say that climate is exactly as important in the treatment of lung tuberculosis as it is in the treatment of any other chronic illness of long duration, and no more.

To understand the reasonableness of this statement, we have only to recall the number of tuberculosis sanatoria scattered across our continent from the shores of the East River to the desert plains of the Southwest, each one of which is supposed to be situated in the most favorable location possible for the treatment of lung diseases. All of them claim unusual advantages, but I have yet to hear that any one of these is blessed with a higher percentage of arrested cases than its less favored competitors.

False ideas die hard in the profession as well as out of it, and the time has unhappily not yet come when the profession as a whole can be made to realize that the prescription of a five-hundred mile railroad ticket is not the best advice to give to the afflicted one. Such advice usually works harm to the average patient—indeed, to all of them I should say—except to a few single men and women of ample means and no family ties who can afford to spend the rest of their days flitting from one health resort to another in the vain quest for the miraculous cure, and usually wasting their precious strength gained in one sanitarium while hunting for another.

Hospital statistics, if they prove anything, prove that a consumptive can recover best at home if he can recover anywhere. If he has comfortable surroundings and intelligent relatives he can get more constant and tender care at home than anywhere else; while if finances must be considered, as they usually must, he is spared the thought that his fortunes have suffered irretrievably in what is sure to be a long, and may perhaps prove a losing fight.

Dr. Howson has written a good exposition of the value of climate, an unprejudiced and an unpartisan one which is refreshing to read. He has emphasized the value of intelligent care, which we all recognize as the factor of prime importance in securing arrest. Certainly, an agreeable climate is grateful to any sick person, but, unfortunately, its value as a therapeutic measure in lung diseases has been elevated in the minds of the laity and many physicians out of all proportion. It is an unfortunate thing for the patient when it is made to assume in his mind a value superior to the conditions of care, supervision, and financial condition.

A. L. Bramkamp, (Banning, Calif.)—So many factors, themselves variable, enter into the question of climate that it is not surprising that many minds have made much of a muddle of it.

One is likely to evaluate climate largely on the basis of his own interests and his own, often limited, observation and experience, or to accept current medical opinion, which also varies from time to time.

Dr. Howson expresses it well when he says that climate cannot take the place of rest, proper food and care, but given these, climate is of great value and may be a determining factor.

If a particular patient is doing well in the circumstances and conditions in which he finds himself, a change of climate need hardly be considered, though removable handicaps should always be eliminated.

If, however, a patient is not doing well, whether conditions be bad or good, a change should be attempted. The value just of change is great; it is always inextricably involved in the matter of climate. If now, with the change of conditions and surroundings, may be combined a change of climate, the possibility of benefit will be appreciably increased.

With a better understanding of just what may be expected of climate, appreciation of its value in the treatment of tuberculous patients will increase rather than decrease.

R. L. Cunningham (1136 West Sixth Street, Los Angeles)—Dr. Howson's paper has presented a very practical estimate of the value of climate as a feature of the treatment of pulmonary tuberculosis. I am one of those who believe firmly that there are beneficial effects attributable to climate per se, though I would not attempt to secure those advantages at the expense of good food, comfortable environment and favorable conditions of living. Roughing it on the desert as a method of treatment is no longer thought of by intelligent people, for the sacrifices involved are far too costly for any possible gain from the atmospheric or barometric conditions. Hippocrates claimed distinct virtues for certain locations, which he stated were particularly salubrious, and his verdict has held the acceptance of most medical men to the present day. A small minority would now insist that climate is a negligible factor, that a patient can re-

cover as satisfactorily in one region as in another. Successful defense of that position must be difficult.

I like the statement in Dr. Howson's paper that a favorable climate is one in which a patient is comfortable. I am convinced that pulmonary tuberculosis heals more quickly and more surely if the patient can live in comfort in the open air than if he is forced to choose between shivering out-of-doors or being house-bound for three months of the year. My conviction is the result of my own experience and observation in both types of climate. Since Dr. Howson takes this same view in his paper, I am happy to accept and commend his exposition.

Climate is one of several important factors in treatment. If a favorable climate can be had in addition to the other necessary things, it is highly desirable to secure it; if a favorable climate can be had only by giving up good care and proper food or at distressing expense, the patient would do well to forego the change.

Charles J. Durand, M. D. (Colfax, Calif.)—Dr. Howson's paper embraces very completely the salient features concerning climate in its relation to the tuberculous. The whole situation, I feel, can be summed up in "It isn't so much where you live as how you live." Proof of this is in the good results obtained by sanatoria operated in different states at the four corners of the Union whose mean average temperature, humidity and altitude are as different from one another as they are distantly separated. So that, given the alternative of a proper cure in a less favorable climate or the ideal climate wherein the patient lives without the proper regime, I think one should opine in favor of the former. In all climates the regime of the tuberculous consists in fresh air, substantial diet and rest, followed in its regular course by supervised time up and exercise. This is essential, but to be carried out intelligently there must be proper medical supervision, which is the all-important factor in the cure. If the health-seeker can find all that is necessary to accomplish a cure in a moderate climate where there is neither the exhausting heat of the desert, the hardships of the higher altitude, nor the cold of the Eastern winters, it is so much more to his advantage, as it is much easier, undoubtedly, to live the outdoor life in a temperate climate than in a cold one. The question of altitude, which Dr. Howson brought up, is very much to the point, as too many feel that the higher altitudes are the most advantageous to the tuberculous. In all reality, I firmly believe that a moderate altitude should be given the preference, for this reason: that, once the cure or the arrestment accomplished, the patient can with equal ease and security choose as his future home a higher or a lower altitude, exploding the often upheld theory that the tuberculous patient whose disease has been arrested should continue to live his life in that locality where arrest of his disease was effected.

Doctor Howson (closing)—The theory mentioned by Dr. Durand, that the individual with an arrested tuberculous process should remain in the locality in which the arrestment was secured, had a certain amount of basis on fact, due to the ill-effects so frequently observed in patients making a change. These ill-effects are due to the fact that sufficient time has not elapsed for the fibroid tissue to become firm enough to withstand the stresses to which it becomes subject in the new environment, and it not infrequently happens that it never does become sufficiently firm to withstand them successfully. These stresses may be purely mechanical, as in the case of a person moving to a much higher altitude. Or they may be of a very different character. Where the individual has been away from home and returns to the locality in which the disease first became active, those climatic conditions which originally tended to cause the activity will naturally act to cause a reactivation. The patient returning from a salubrious climate to one where the weather renders necessary more or less unhygienic conditions of living, such as close confinement with the breathing of stale or excessively dry air, is much more likely to suffer a relapse than when in the more favorable climate. On the other hand, the colloquial term "wearing out a climate" expresses a very important possibility, and one which, as I have already stated, must be kept in mind. It may apply to the individual with an arrested process, as well as the individual who is working to secure an arrestment.

Dr. Mace mentions several things which it is important to remember. I agree with him in the statement that "false ideas die hard in the profession," which is so well illustrated in his argument.

As I have already pointed out, statistics for or against a climate are valueless, because of the very great number of factors which have to be taken into consideration when making any comparisons regarding patients with tuberculosis. Drawing conclusions in this respect from statistical data in which tuberculous patients are considered as a whole or in groups is on a par with attempting to classify and treat such patients as a whole or in groups. The conclusions in the first instance are as misleading as the results in the second case would be disastrous. It was the attempt to establish rules for the treatment of tuberculous patients en masse that brought about the evils to which the doctor refers and the prescription of a 500-mile railroad ticket. Applied to all cases this, of course, proved to be a mistake in many instances. Realizing this, many physicians have gone to the other extreme and, after eliminating the 5 per cent Dr. Mace mentions, proceed to treat the remaining 95 per cent en masse, with the assertion that the therapeutic value of climate is unimportant. If patients are sent to distant lands indiscriminately, certainly the best results cannot be obtained. If, however, the prescription of climate is considered carefully in each individual case, many more than 5 per cent may derive marked benefit.

We have all observed patients whose condition has undergone remarkable improvement following their removal to one of the climates commonly considered to be favorable for the tuberculous. Most of us have also seen definite benefit follow a sojourn, perhaps quite brief, in a climate generally unfavorable. It in no sense implies a failure to appreciate fully the value of climate when we state that the various climatic factors and the patient's reactions to them must be painstakingly studied in each case, and that injudicious use of this therapeutic aid may bring unfavorable results.

The care of the patient in the home should always claim first consideration. Most patients must be cared for in that manner, and everything should be done to bring home treatment to the highest degree of efficiency. But here again the discussion deals with patients collectively. If all patients were ideal patients and all homes ideal homes, then the need for other than home care might be limited to "a few single men and women" as indicated. The ideal patient and the ideal family fail to co-exist with sufficient frequency to prevent a situation very commonly arising in which it is to the best interest of one or both that they be separated.

A Medical Education is seldom completed in college. There is some new development in medical science almost every day. Iletin, radium, and x-ray are recent examples. A physician must read to keep abreast of the new appliances and remedies. As a rule, the first authentic information you obtain regarding the use and price of new instruments; the location of institutions for special treatment; the discovery and application of various therapeutic remedies is found in the advertising pages of your own California and Western Medicine. Here are a few quotations from recent advertisements in the state journal: "Our x-ray department includes the new 280,000 volt deep therapy apparatus." "Gelatine contains 5.9 per cent of lysine, the natural amino-acid so essential to human growth." "Calcreose differs from creosote, in that it apparently does not have any untoward effect on the stomach." "Digalen will give you results whenever the heart can respond to digitalis. You can depend on that."

THE NEUROLOGICAL FEATURES OF ADDISON'S ANEMIA

By WILLIAM COLE, M. D., Long Beach, California

A tentative diagnosis may be established solely on neurological evidence.
The optic and auditory nerves bear the brunt of the attack in this disease.
Tingling and numbness in the hands and feet are the commonest symptoms.
Degeneration occurs in the peripheral nerves and also in ganglia.
There is apparently an endocrine phase.
Early diagnosis is all-important.
Arsenic is the drug of choice.
Treatment should be early, energetic, and persistent.

The clinical approach to Addison's anemia concerns chiefly the internist, but it is also a disease of peculiar interest to the neurologist. Twelve per cent of Woltman's series of cases complained of nervous symptoms alone, and 1.4 per cent presented neurological signs antedating the anemia. A tentative diagnosis may be established solely on neurological evidence.

The frequency of nervous system involvement in this disease is variously estimated. Hamilton and Nixon state that it occurs in 75 to 80 per cent of all cases of Addison's anemia. In Mix's series, the incidence was 60 per cent. Bramwell's series of cases showed an incidence of approximately 3 per cent. It would appear that Bramwell was far astray in his deductions when we consider the modern knowledge of this disease. The discrepancies in statistics some years ago were, no doubt, due to the fact that many cases of Addison's anemia were diagnosed as tabes, subacute combined sclerosis, or other system degenerations of the spinal cord. I have recently observed twenty-one cases of Addison's anemia, and nervous system lesions were demonstrable in 87 per cent.

REVIEW OF THE LITERATURE

In 1855 Addison first described the disease and noted mental derangement in such cases. He also observed degeneration of the solar plexus. In 1872 Biermer described the disease, and mentioned weakness and vertigo as prominent symptoms. Lichtenstern, in 1884, reported the association of pernicious anemia with tabes. There is little doubt that he confused tabes with the combined sclerosis of Addison's anemia. Lichtheim, in 1887, distinguished the combined sclerosis of Addison's anemia as a specific entity. Since then our knowledge of the nervous system lesions in this disease has progressed continually. The most able expositions on the subject are those of Russell, Batten, and Collier (1900), Bramwell (1915), Woltman (1918 and 1919), and Lurie (1919).

MENTAL SYMPTOMS

No psychosis was encountered in my series. Mental depression, querulousness, and irritability were common. Somnolence is not uncommon, even in early cases. One of my patients complained of cloudiness of the brain, a feeling of inertia and inability to concentrate. After a remission, euphoria is often noted. Apathy, melancholia, vertigo, and tinnitus often come on as the anemia advances. Osler noted delusions. Gulland and Goodall observed maniacal attacks, hallucinations and delirium occurring as terminal conditions. Greene says any form of mental disturbance may occur during the course of the disease. No striking psychical abnormalities occurred in the majority of Cabot's series. Jones and Raphael call our attention to the occasional resemblance of arteriosclerotic insanity and the mental disturbance of pernicious anemia. Barrett noted a definite paranoid trend in six of his eleven cases; also auditory hallucinations and a tendency to confabulation. Mental deterioration, as a rule, is not marked, the personality being fairly well preserved. Lurie's opinion coincides with Barrett's. Both suggest classifying these cases with the paranoid psychoses.

PATHOLOGICAL CHANGES IN THE BRAIN

The most important changes are areas of degeneration in the medulla, focal degeneration in the white matter and diffuse degenerations in the association tracts and commisures. Woltman describes destroyed areas in the cortical pyramidal cells; also in the pons and internal capsule. These degenerated plaques were closely associated with arteries, and he believes lymphostasis an important factor in their production. He also believes that these destroyed areas bear little relation to well-marked psychoses, but do account for the milder symptoms, such as apathy, depression, and delirium. Lurie found miliary foci in the pons in all his autopsied cases, and diffuse pigmentation of the nerve cells in three out of four. French found capillary hemorrhages in the meninges; also scattered petechial hemorrhage in the cortex.

CRANIAL NERVE SYMPTOMS

The optic and auditory nerves bear the brunt of the attack in this disease. Retinal hemorrhages are common, but the optic discs usually escape. In the author's twenty-one cases, the optic discs were paler than normal in eight. Small retinal hemorrhages were present in five. The area surrounding the disc is often edematous and the vessels dilated. Six cases of my series had tinnitus. One patient developed a bilateral deafness. Parosmia and paraguesia are occasionally found. Paresthesias of the tongue are common, and the patients complain of them when taking highly seasoned foods.

SPINAL CORD CHANGES AND SYMPTOMS

Tingling and numbness in the hands and feet are the commonest symptoms. The former usually appear first, but the paresthesias in the feet predominate later. Girdle sensations, especially about the knee, are frequent. Migratory sharp pains are sometimes complained of; also hyperesthesia of the trunk. Burning sensations in the toes often interfere with sleep, and a sensation of coldness or deadness in the extremities is not uncommon. Disturbances of the gait and station and spasticity of the limbs are frequently observed. Astereognosis and inco-ordination are occasionally noted. A sensation of swaying was the prominent complaint of one patient.

Pathology of Spinal Cord Changes—The spinal cord changes in Addison's anemia have been long recognized and thoroughly studied. Woltman finds that the degeneration begins in small isolated patches

in the posterior columns, and extends to the lateral columns by secondary degeneration and coalescence. The posterior columns and the lateral pyramidal tracts are most frequently involved. The anterior columns may be affected. The degeneration apparently begins in the nerve fibers, and is most marked at the mid-dorsal level. The direct cerebellar tracts are rarely degenerated. Blood vessel changes are usually insignificant. The meninges are seldom affected in Addison's anemia, but an increased cell count in the spinal fluid is occasionally present. Mix reports one such case. He also observed that pernicious anemia and syphilis attack the spinal cord in much the same fashion. The nerve roots, grey matter, and Lissauer's zone are rarely affected. The degeneration is most marked above the mid-dorsal level, yet the most pronounced neurological signs occur well below this region.

A number of cases are reported in which neurological signs were absent during life, but extensive cord degeneration was found at autopsy. Conversely, some cases presented neurological signs during life, but little or no cord degeneration at necropsy. The latter type of case is probably due to neuritis or a meningo—radiculitis. Constant system degenerations are not present in every patient with Addison's anemia. Unlike tabes, it does not breed true. The cord sclerosis in this affection is not a true system disease, but a diffuse, degenerative process which may involve any cord system.

Three types of cord changes are noted: the tabetic, the ataxic paraplegic, and a combination of the tabetic and ataxic types. In the tabetic type, the knee and ankle jerks are usually weak or absent, and the Babinski sign absent. Muscular hypotomnia followed by flaccidity is the rule. "Silk glove and stocking" anesthesia is sometimes present. The sharp demarcation between anesthesia and normal sensation in these cases is of interest. As in tabes, a sensation as of walking on cotton is not uncommon. Vibration sense is usually lost very early, and this is followed by loss of the muscle and position senses. Testicular sensation may be diminished, and there is often a hypaesthesia of the urethral and rectal mucosa. Epicritic sensibility is not involved to a great extent except in the cases showing glove and stocking anesthesia, but the response to stimuli is often delayed and localization is poorly performed. Except in the late stages, when anemia is profound and cord changes advanced, we do not usually find disturbance of pain or thermal sensations. Dissociation of sensibility is rarely encountered. Co-ordination is usually well preserved in the arms. Astereognosis is common; also loss of manual dexterity. Rombergism is well marked in the late stages of the disease, but may be absent during the stage of irritation. The gait in far-advanced cases is distinctly tabetic.

The ataxic paraplegic type is characterized by spastic paralysis of the legs, exaggerated knee-jerks, patellar and ankle clonus, as a rule, and a bilateral Babinski. As the sensory tracts are intact, there are no sensory disturbances. This type is totally unlike the tabetic. The lateral pyramidal tracts bear the force of the attack; consequently, we get a syndrome resembling spastic spinal paraplegia. In the early stages one finds only spasticity and increased reflexes plus a positive Babinski.

In the combined type we find simply an addition of the spastic paraplegia symptoms to those of the tabetic type. In these cases Mix points out that the behavior of the reflexes is governed by the involvement of the pyramidal tracts; that is, the increased reflexes, Babinski sign, ankle clonus, and spasticity remain even when the posterior columns are extensively degenerated. This type is the subacute combined sclerosis, and is usually a late manifestation. The tabetic type is the most common, the subacute combined sclerosis next, and finally the ataxic paraplegic type.

PERIPHERAL NERVE SYMPTOMS

It is now firmly established that degeneration occurs in the peripheral nerves and also in ganglia. The peculiar sensory symptoms in Addison's anemia cannot be explained on the basis of cord involvement alone, but most observers believe that peripheral nerve degeneration is an inconstant finding. Nonne found no striking changes in the posterior roots or peripheral nerves. Putnam and Taylor found insignificant changes in the same areas. Bramwell believed absence of nerve degeneration to be characteristic of the disease. Von Noorden, however, found definite evidence of neuritis in his series, while Hamilton and Nixon noted distinct areas of degeneration in the posterior roots, Lissauer's zone, and the anterior tibial nerves in six out of ten necropsied cases. Woltman found objective evidence of multiple neuritis in 4 per cent of his cases. He thinks the sensory symptoms can be better explained on the basis of multiple neuritis than on that of spinal cord change. The "stocking and glove" anesthesia, in his opinion, is due to a neuritis. Temperature, touch, and pain sensibilities may be lost, but are usually almost intact.

ENDOCRINE GLAND DYSFUNCTION

There is apparently an endocrine phase to Addison's anemia. In a broad sense the blood-forming organs, spleen, lymphatic glands, and thymus are links in the endocrine chain, and we know that these organs and other ductless glands are affected in this type of anemia. It is certainly true that, in the type of pernicious anemia with excessive hemolysis, splenectomy brings about marked temporary improvement. In these cases we may assume that a hormone in the blood stimulates the excessive hemolysis, that splenectomy breaks this vicious cycle, and improvement results. Sailer pointed out that gonad dysfunction was occasionally seen in this disease. Draper also states that many cases of Addison's anemia have associated endocrine syndromes.

SPINAL CORD BLADDERS

Spinal cord bladders are common in advanced primary anemia. Kretschmer emphasized the fact that little attention has been paid to this condition, and that these patients often come first to the urologist. Difficult urination followed by partial retention, then incontinence, and finally complete retention is the usual sequence of symptoms. Six cases of my series were studied cystoscopically, and fine tra-

beculations in the bladder mucosa were found in four. This was very marked in two. The internal sphincter is often relaxed. Cystograms reveal a funnel-shaped bladder contrasting markedly with the spherical outline of the normal cystogram.

DIFFERENTIAL DIAGNOSIS

Tabes is most commonly confused with Addison's anemia. Optic atrophy and the Argyll Robertson pupil spell tabes. They are unknown in Addison's anemia. Knee-kicks are diminished or absent in tabes, whereas in Addison's anemia they are often increased, due to combined sclerosis. Sanford shows that a Babinski sign is often present in Addison's anemia, but is never present in tabes. Retinal hemorrhages are present in 50 per cent of cases of primary anemia. The Wassermann reaction and blood studies will differentiate the two conditions in most cases. Lastly, Addison's anemia associated with late or latent syphilis is quite rare.

Disseminated sclerosis may be distinguished from primary anemia by the following points: 1. It rarely occurs after 35 years, whereas pernicious anemia is rare before this age. 2. It is more common in females, whereas pernicious anemia is twice as common in males. 3. It is very chronic, whereas Addison's anemia usually kills within three years. 4. It is not associated with anemia. 5. Nystagmus, intention tremor, staccato speech, optic atrophy, and transitory monoplegias are uncommon in Addison's anemia.

Combined scleroses due to secondary anemia, pellagra, plumbism, leukemia, and syphilis may usually be differentiated by careful studies of the blood, nervous system, and gastric contents.

TREATMENT

Early diagnosis is all-important. Careful neurological examination will often help to establish diagnosis before anemia appears. Focal infections should be eradicated, and the results are often good.

Diluted hydrochloric acid given either before or after meals is of distinct value. The iron preparations are of no value. Arsenic is the drug of choice. Fowler's solution, in ascending dosage, is beneficial, but should be discontinued for one week in every four to avoid arsenical neuritis. Salol is often useful to check diarrhea and intestinal putrefaction. Constipation must be corrected and intestinal parasites eradicated. Rest, sunshine, and fresh air are most important, and rest in bed is obligatory if the erythrocytes are less than 2,000,000.

Neosalvarsan or silver salvarsan are most useful. If the erythrocytes are above 2,000,000, they may be given once a week until improvement occurs, then less often. Three-tenths gm. of neosalvarsan or one-tenth gm. of silver salvarsan are given at first, and the dosage gradually increased.

Blood transfusion is unnecessary if the erythrocytes are over 2,000,000. In cases with excessive hemolysis, it is useful. The citrate method is the simplest. Five hundred cc. of blood is given every fourth day until improvement begins, then neosalvarsan is resumed. Reactions occur more commonly after using citrated blood, but this is overcome by morphine and atropine in full dosage before beginning the transfusion.

Splenectomy is not routinely advisable. Splenectomy gave marked temporary improvement in two of my patients with excessive hemolysis and splenomegaly.

Tonics are harmless and sometimes do good.

A diet rich in vitamins and containing a moderate amount of protein is advised. It is difficult to control the distressing paraesthesias and nervous manifestations. Neosalvarsan has a beneficial effect on them at times. Temporary relief is obtainable by using antispasmodics.

Irradiation of the spleen and long bones has been of no value in my cases.

I have had no experience with germanium dioxid. Shukle and Muller and Izard report on it favorably.

Psychotherapy is often useful.

We should not give a gloomy prognosis in these cases, but treat them early, energetically, and persistently. In this way the patient's life is prolonged, and we may even prevent the appearance of the full-blown disease.

CONCLUSIONS

1. Nervous system involvement occurs in 80 per cent or more of patients with Addison's anemia.
2. Degenerative changes in the brain and mental symptoms are quite common.
3. The cranial nerves, with the exception of the optic and auditory, usually escape damage.
4. Spinal cord degeneration occurs in 80 to 87 per cent of cases.
5. Sensory symptoms, especially the various paraesthesias, are the commonest neurological findings.
6. Deep sensation is impaired earlier and to a greater extent than superficial.
7. Three main types of cord change occur: (1) The tabetic; (2) subacute combined sclerosis; and (3) the ataxic paraplegic.
8. Peripheral nerve degeneration is commoner than is generally believed.
9. Endocrine dysfunction is a common complication.
10. Spinal cord bladders may be recognized early by the urologist.
11. Tabes dorsalis is the disease most commonly confused with Addison's anemia.
12. Early diagnosis is essential if good results are to be obtained by treatment.
13. Careful neurological examination may establish a presumptive diagnosis before the anemia develops.
14. Treatment should be early, energetic, and persistent.

Farmers and Merchants' Bank Building.

DISCUSSION

Charles E. Nixon, M. D. (Flood Building, San Francisco) — Since Lichtenstern and Lichtheim noted changes in the spinal cord in cases of pernicious anemia many observers have offered their explanation of the mechanism by which these lesions are produced. While the majority of neuropathologists believe that the lesions of the nervous system are caused by a toxin, they are not agreed as to the way in which the toxin acts. Seyderhelm has recently made an interesting contribution to this phase of the subject. He

was able to break up the toxin "Oestrin" into various fractions. The toxin was both hemolytic and neurotoxic; he found that the "blood poison" acts ("both as a hemolytic and toxic agent") only by parenteral introduction.

Several types of lesions are found in the spinal cords of these cases, but the most characteristic change consists of a degeneration of the long fibers of the cord, particularly of those in the posterior column. It is fairly well established that the long uncrossed fibers of the posterior column conduct impulses having to do with vibratory sense, and this explains the fact noted by Dr. Cole that vibration sense is usually lost very early.

The peripheral nerve involvement which has been demonstrated pathologically is responsible for the acroparesthesiae so prominent in most cases of sub-acute combined degeneration of the cord associated with pernicious anemia. The patients complain of "tingling," "prickling," "numbness" (using this word at times to express paresthesiae and at other times to denote loss of tactile sensibility), "a feeling like sand on the finger tips that can't be picked off."

The combination of subjective sensory disturbances and loss of vibration sense is the most characteristic picture in this condition.

Ross Moore (520 West Seventh street, Los Angeles)—This very meaty paper of Dr. Cole's would be hard to discuss were one to consider it paragraph by paragraph. His series of twenty-one cases of Addison's anemia is rather an extensive one and his analysis is first class.

The chief value of this paper to my mind lies in its suggestiveness. To everyone who reads it carefully it brings a sense of the fact that nervous disorders are frequently part and parcel of more general system conditions. We have really known this a long time, but we do not always keep it in mind. The last fifty years of medicine has seen a great taking to pieces of disease and a great cataloging of symptoms. We are now on the opposite tack—we are synthesizing disease on the basis of fundamental biological principles. Thus it comes about that we hitch Addison's anemia and such a clinical picture as tabes dorsalis together at times. Hitching them together provides a new concept of the individual case and points the way to a rational program of treatment.

Thus medicine advances.

Fred B. Clarke, M. D. (Pacific-Southwest Building, Long Beach, Calif.)—We are all indebted to Doctor Cole for a most excellent review of the literature pertaining to the pathology and symptomatology of Addison's anemia as related to the nervous system. It is possible to make a diagnosis of pernicious anemia from the symptoms of spinal cord involvement before the charactertistic blood changes are found. In many instances they antedate blood changes from two to three years. Bramwell has reported a case in which the time was three years.

Doubtless many cases diagnosed as sub-acute, combined degeneration of the cord, in which a typical blood picture is not found, would have shown the true nature of the anemia at autopsy. Why the clinical picture should be so varied as to lead, in some cases, to a diagnosis of Addison's anemia with spinal cord changes of sub-acute combined degeneration, and in others to sub-acute combined degeneration with anemia, is hard to understand, unless one believes that in some cases the toxins may have a more marked hemolytic action, and in others a more marked neurotoxic action. Some authorities believe that two separate and distinct toxins are to be considered, one showing a predilection for red blood cells and the other for the nervous system.

Regardless of whether the anemia occurs before changes in the nervous system are manifest or afterward, there is no difference in the neurological symptoms nor in the pathological changes in the cord, except in degree.

I think it is well to emphasize that tingling and numbness of the fingers or toes are very valuable as early symptoms and when persistent should result in a careful search for confirmatory evidence of anemia.

The disturbance of vibratory sense I regard as of great importance, occurring as it does so frequently and constantly in the majority of cases before a diagnosis can be made from the blood findings. The same is true of joint sense, both being conducted by the same pathway.

The mental symptoms are interesting and occur more often than usually recognized. Barrett in 650 necropsies on insane persons in Michigan found fifteen to have brain changes of pernicious anemia.

Doctor Cole has said in his conclusions that early diagnosis is essential, with which I most heartily agree, and I believe we should, in so-called mild anemias of unknown cause, critically analyze any disturbance of the digestive tract, especially with reference to achlorhydria, as this is undoubtedly the earliest and most reliable finding in pernicious anemia. Many well authenticated cases have shown this symptom as early as twelve years before blood and cord findings became present. Achlorhydria, if carcinoma of the stomach is not present, should be looked upon with grave suspicion that the individual presenting such a finding either has or may become a sufferer of Addison's anemia.

V. R. Mason (Pacific Mutual Building, Los Angeles)—This presentation of the neurological features of pernicious anemia is so complete that little is left for discussion. It is of interest that in Cabot's large series changes in the nervous system were present in 87 per cent of autopsies in this disease. Dr. Cole has shown that symptoms referable to the nervous system are present in only a slightly lower percentage. It is, therefore, important that internist and neurologist work together in an effort to arrive at an early diagnosis.

Sub-acute degeneration of the cord is usually due to pernicious anemia, and in the vast majority of such cases the clinical picture is due to implication of the long fibers of the posterior columns, a fact emphasized by Dejerine. Such neurological findings often precede the development of anemia, but in my experience they very rarely precede the qualitative alteration of the blood on which a presumptive diagnosis may be made.

I should also like to emphasize two other points of some importance. In the first place, improvement of the neurological symptoms rarely occurs; and secondly, in certain instances, the progress of the degeneration of the nervous system may occur with great rapidity.

Walter C. Smallwood, M. D. (701 Pacific Avenue, Long Beach, Calif.)—Doctor Cole has very completely presented the neurological features of pernicious anemia and has placed due emphasis upon the great frequency of nerve involvement in this disease.

Brain, cord, or peripheral nerve elements may be affected, but cord symptoms are the most common and peripheral lesions most rare.

There is no typical picture of cord involvement in Addison's anemia, but the dorsal and lateral columns are most usually affected, either singly or in combination. The degree of involvement is remarkably variable, and the predominance of impairment may be exhibited in either column, or both columns may be more or less equally affected.

Symptomatically, paresthesias of the feet and hands are the earliest and most common manifestations. Tabetic types of cord implication with inco-ordination and loss of reflexes occur more frequently than spastic or spastic-ataxic syndromes. Occasionally more complex and bizarre neurological findings point to a cord degeneration of a very diffuse and patchy nature.

Disturbances of the nerve function may antedate the anemia, although qualitative alterations in the blood smear have always been present in my experience.

Symptoms of peripheral nerve involvement are rare; stocking and glove anesthesias I have not seen.

Bladder involvement is frequent; fecal incontinence is rare.

Objective neurological evidence may be but slightly marked in pernicious anemia, but if carefully sought is exceedingly common. Hypesthesia or hypalgesia, especially in the legs, diminution or loss of vibratory sense, and slight inco-ordination in the legs possibly visible only in the excessive play of the dorsal tendons in the Romberg test, may be the only signs of damage to the spinal cord.

Neurological findings are more constant and more pronounced as the age scale is advanced. Reviewing our own series, the nervous system showed implication in 95 per cent of patients who had passed the fifth decade.

The neurological symptoms due to cerebral involvement are manifested more by psychic disturbances than by physical nervous stigmata. Pathologically, however, diffuse degenerative plaques in the white matter of the brain are frequently found.

The cranial nerves are almost constantly spared.

Marked mental disturbance, hallucinations, delirium, and maniacal states are ordinarily terminal events. Less profound changes, apathy, somnolence, and mild confusion are not infrequent, especially in the blood crises, and remissions are often attended with improvement or complete amelioration.

Treatment of any type has been, in my own experience, of little avail when definite organic neurologic lesions could be demonstrated.

Doctor Cole (closing)—I have very little to add to the excellent discussion on this paper. Dr. Clarke has emphasized two very important diagnostic points, namely, the early achlorhydria in these cases, and the paraesthesias in the fingers and toes. As he points out, when we are confronted with a patient who has an obscure digestive disorder and in whom we find an achlorhydria, we should immediately think of pernicious anemia and look for other objective findings in the blood smear and the nervous system.

I wish to thank Dr. Moore for again reminding us all that nervous system disorders are often the expression of some underlying systemic condition. We forget this fact much too often.

I cannot fully agree with Dr. Mason that improvement in the neurological symptoms rarely occurs. In my experience I have found that, as a rule, improvement in the blood picture is usually coincident with improvement in the subjective nervous symptoms.

Dr. Nixon lays special stress on the pathology of the nervous system degenerations in this disease, and rightly so, for I know of no disease apart from syphilis which gives rise to so many striking pathological alterations in the nervous system.

Dr. Smallwood points out that the neurological findings are more constant and pronounced as the age scale advances. I omitted mention of this in my paper.

The whole subject is a very fascinating one. The research worker who discovers the real cause of pernicious anemia and devises a successful method of treatment or cure will have generations to come rising up to call him blessed.

(From the Department of Internal Medicine, Johnston-Wickett Clinic, Anaheim, California.)

You can't starve a cow and expect a record-breaking milk yield. Your estate cannot collect on your life insurance unless you pay the premiums. A slow, but sure, method of business suicide is the elimination of all promotion.—Facts Regarding Pharmaceutical Promotion.)—S. De Witt Clough.

"If the people do not generally approve a law, speeding up prosecutions will not make them love it. An increasing number of arrests does not prove that a law is operating successfully, but only that an increasing number of people are doing the things for which they may be arrested."

SKIN SYPHILIS AS CLINICAL ENTITY

By MOSES SCHOLTZ, M. D.,

(From the Graduate School of Medicine, University of California, Los Angeles County and Kaspare Cohn Hospitals)

The controversy over who should treat syphilis is not settled yet.

Diagnostic errors are mostly those of omission rather than of commission.

The Wassermann test does not deserve such absolute confidence.

A syphilitic lesion may be elevated above the skin, but it is never limited to the epidermis only.

Syphilitic lesions involute either by absorption or ulceration, with subsequent production of scars.

There is a great and lamentable tendency at present in the profession to lean too heavily on the laboratory in making a diagnosis.

Laboratory findings are valuable and acceptable in dermatology only in correlation and checked up by clinical evidence.

It is gratifying to a clinician to hear serologists calling halt on the overzealous believers in the Wassermann test and reminding them that laboratory findings should not be considered alone, but only in correlation with clinical findings.

If there is one disease that belongs at once to all medical specialties, this is syphilis. Syphilis is truly a bone of contention among various specialties. The controversy over who should treat syphilis is not settled yet.

A case of syphilis may or may not affect a certain organ or system of organs in the body, but every case of syphilis must go through cutaneous manifestations—at least, limited to the primary chancre. After the resolution, the active syphilides often leave permanent traces, such as scars, pigmentations, leucodermata, which are of considerable retrospective diagnostic importance. Hence, familiarity with skin syphilis as a whole is of great clinical value to the medical man, no matter in what special line he may be working.

I shall briefly review the most common clinical types of syphilides, their salient diagnostic features, and shall briefly consider the sources of most common diagnostic errors in syphilis.

DERMOTROPIC VS. NEUROTROPIC SYPHILIS

There is a current view that incidence of skin manifestations in syphilis depends on the strain of spirochetae. It is believed that various strains preferentially attack various organs of the body; hence, there are: Dermotropic strain, neurotropic strain, etc. There is also a belief that there is a kind of inverse relationship between the involvement of the skin and other tissues by spirochete; that is, the more profuse and marked the skin eruptions are the less likely is the involvement of visceral organs, and vice versa. However, this hypothesis is not sufficiently substantiated by clinical evidence.

GENERAL MORPHOLOGIC CHARACTERISTICS

Speaking of the general morphologic characteristics of cutaneous syphilis, one outstanding feature should be emphasized: the most incredible morphologic versatility and polymorphism of skin syphilis. It can truly be said that syphilis can mimic any dermatologic lesion whatever. So true it is that the

old Latin saying, "In dubis respice lues," holds good today as ever before.

Cutaneous syphilide may resemble in appearance eczema, impetigo, psoriasis, lichen, seborrhea, ringworm, pemphygus, smallpox, etc.

It is a remarkable and fortunate coincidence that, in spite of the tremendous range of morphologic features of cutaneous syphilides, all these numerous forms possess common characteristics which, with a little training, can be detected in all of them; these are so-called specific stigmata, which allow us to make clinical diagnosis of syphilis. The snap-shot diagnosis, on the general impression of the case, is the most dangerous and unreliable procedure. Only the study of individual lesions and a search for specific morphologic traits gives us reliable and promising means of correct diagnosis.

VALUE OF HISTORY

Strange to say that, with all the knowledge by the profession of the incredible prevalence of syphilis, diagnostic errors are mostly those of omission rather than of commission. More cases of syphilis are overlooked or taken for something else than vice versa. There are two outstanding factors contributing to this. The first is the undue reliance of the practitioners on the history of the case. How often one sees diagnosis of syphilis ruled out just because the patient denies venereal exposure or a history of infection. In this respect, there is a sharp difference between the skin and other organs of the body. In internal medicine, history is of a paramount importance, and ordinarily diagnosis cannot be made without it. In dermatology, history is only of secondary and subordinate value, as the clinical evidence is on the surface and cannot escape the observer. For this reason the usual question, "Did you ever have a chancre" is barren of results and is more likely to mislead the clinician than to give a light on the subject. The only kind of history worth while having is a written statement or a record by a previous medical adviser, but this is available only in exceptional cases. I find it more productive and expedient to make a clinical diagnosis first and ask questions after.

VALUE OF WASSERMANN TEST

Another common source of diagnostic errors in skin syphilis is the Wassermann test. Many practitioners believe with a religious faith in the infallibility of the Wassermann test, and stake their diagnosis on the results of this test. In the light of the dermatologic clinical experience, the Wassermann test does not deserve such absolute confidence. While the serologic statistics claim that Wassermann is positive in 80 to 90 per cent of early secondary syphilis, the clinical fact remains that not uncommonly the active and clinically typical cases of syphilis—confirmed later by the therapeutic results—show negative Wassermann. In the case of typical, or even suggestive clinical lesions, the clinician can justly overrule Wassermann and proceed with the therapeutic tests. On the other hand, positive Wassermann does mean that the patient is syphilitic, but it does not mean necessarily that the present lesions are syphilitic in nature, for the simple reason that a syphilitic may contract also any other dermatosis.

GENERAL MORPHOLOGIC CHARACTERISTICS OF SYPHILIDES

A general principle can be established that, with the exception of the primary lesion, the earlier the syphilitic lesions are the more numerous and deeper they are. This enables us to estimate approximately the age of the infection by the character of the lesions.

A point of interest to be mentioned is itching. It is commonly assumed that syphilitic lesions do not itch. This is correct, generally speaking. However, there are quite a number of cases, particularly early secondary generalized syphilides, where itching is quite pronounced.

Another point of diagnostic importance is comparative rapidity of the clinical evolution of luetic lesions. The early syphilides can be considered as acute and subacute clinical forms. The late secondary and tertiary syphilides belong to the chronic group; yet their development and involution is taking weeks and months, while the development of lesions of the same size in skin tbc. and skin cancer takes years.

Localization is also of diagnostic importance. Early syphilides do have preferential locations such, for instance, as corona veneris selecting the forehead, mucous patches locating on the tongue and lips, condylomata in genito-rectal regions. Late secondary and tertiary syphilides, on the other hand, have no selective localization and attack any part of the body.

SPECIFIC STIGMATA

We have mentioned before specific stigmata. The most characteristic of them is color. We are all familiar with the dusky red, so-called raw-ham color, later turning into brownish copper color. On this occasion, I wish to emphasize the utmost importance of good day light for diagnosis, as diagnosis often rests on the delicate color shading between dusky red, violaceous, yellowish, purplish, deep red or cyanotic color. One should never try to make a diagnosis under artificial light, which renders his color perception uncertain and fallible.

The second specific trait is soft consistency of the syphilides, which gives smooth, rather velvety feel to the palpating finger. This is a very important differential point from many scaly inflammatory dermatoses, such as psoriasis, seborrhea, pityriasis rosea, lupus erythematosus, etc.

Another specific trait not mentioned in the books is a rather deep involvement of the skin. A syphilitic lesion may be elevated above the skin, but it is never limited to the epidermis only; it always goes to the true cutis, and often way below it. This differentiates syphilis from various superficial skin infections, such as tinea, seborrhea, etc. Still another very important specific trait is a tendency to form flat lesions. This feature occurs largely in secondary syphilides—early and late. Its best example is so-called broad, flat condylomata, i. e., venereal warts.

The only exception is follicular pustular syph-

ilides, which stimulates acne. However, the absence of comedones, localization extending beyond acne area, deep color and other associate symptoms effect differentiation.

The shape of the lesions is also one of the specific traits. The early lesions have round or oval form, but late secondary begin to assume annular form, and still later tertiary lesions take up serpiginous or kidney-shape form.

Syphilitic lesions involute either by absorption or ulceration, with subsequent production of scars. Syphilitic scars are so characteristic as to constitute one of the most important specific traits. They are invariably serpiginous, very soft, pigmented at first, and later depigmented, and show a strong tendency to atrophy, giving an impression of wrinkled cigaret paper. Syphilitic scars are one of the best means to establish retrospective evidence of syphilis. They are as conclusive as positive Wassermann. Yet how few practitioners avail themselves of this important symptom. Here again, the importance of a thorough examination comes up to the front. It can be safely stated that no other branch of medicine pays better dividends on a thorough examination than dermatology. Many obscure cases of syphilis, overlooked because of the negative Wassermann and negative history, would be recognized as such if the clinician would not fail to strip the patient and make a thorough inspection of the skin, searching for the retrospective evidence of lues, such as specific scars, pigmentations, or leucodermatous spots.

HEREDITARY SYPHILIS

A word about hereditary syphilis.

Speaking generally, skin lesions of hereditary syphilis present all the specific traits mentioned above, with a few exceptions. One of them is bullous lesions commonly involving the palms and the soles. Bullous lesions never occur in acquired syphilis, and are the exclusive feature of the hereditary type. Rhagades, or radiating scars found at the mucous cutaneous junction around the mouth and anus, are another distinctive feature of hereditary syphilis.

One should not expect to find in every case of hereditary syphilis a state of malnutrition and wrinkled "old man" looks. Nor, uncommonly, infants in the most excellent state of nutrition show very marked specific stigmata.

Among stigmata comprising a syndrome of hereditary syphilis most common are: Snuffles, saddle-nose, enlargement of the spleen and liver, epiphysitis, lamphadenopathy, so-called Hutchinson's triad of interstitial keratitis, notched teeth and deafness, and saber-like tibias.

Medical history of the parents and other children in the family are of much greater value in hereditary syphilis than in the acquired.

CONCLUSION

These remarks are offered merely as a general sketch or morphologic characteristics of cutaneous syphilis. My purpose in presenting it is to re-emphasize the great value and importance of clinical data in diagnosis of syphilis in contra-distinction to the laboratory findings. There is a great and, in my opinion, lamentable tendency at present in the profession to lean too heavily on the laboratory in making a diagnosis. In fact, many clinicians expect the laboratory to spare them the effort of clinical reasoning, and are in danger of having their power of clinical observation atrophied from non-use. Dermatology is one branch of clinical medicine that can successfully defy the laboratory in the struggle for supremacy. Because of the peculiar topographic location of the skin as a surface organ, dermatologic clinical evidence is offered to anybody who will look for it. It is my claim, confirmed many times in the post-graduate work that, with a little training in collecting and interpreting dermatologic evidence, the average practitioner can acquire a capacity of making a correct diagnosis of syphilis on clinical grounds in the majority of cases, and through that emancipate himself from the state of helplessness and absolute dependence on the laboratory.

Laboratory findings are valuable and acceptable in dermatology only in correlation with the clinical evidence. Laboratory shall give additional information of confirmatory nature, but it should be subordinate to and not controlling the clinical diagnosis based on correct principles and correct technic.

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DISCUSSION

Harry E. Alderson, M. D. (240 Stockton Street, San Francisco)—As Scholtz well states in the beginning of his interesting paper, those who undertake to treat syphilis should know a great deal about the skin and mucous membrane manifestations of the disease. It is on account of the frequency of these lesions that specialists in cutaneous medicine see most of the cases. The skin and mucous membranes also give us valuable evidence of the untoward effects of mercury, iodides, and arsphenamin, enabling us to modify our treatment at the right time. This is an additional reason why dermatologists should be the best qualified to treat the disease.

As for there being different strains of spirochete showing special affinity for certain tissues, my feeling is that it is the other way—that is, this apparently selective action of the organisms is due to increased susceptibility of the tissues. Thus some individuals are more prone to develop cerebrospinal lues, and others cardiovascular lues, and so on by reason of some inherent weakness of those systems.

Regarding the diagnosis, one should not depend too much upon any one factor, but should take clinical and serological symptoms, along with a carefully worked-up history, under consideration, weighing all thoughtfully before arriving at a decision. There is too much of a tendency nowadays to rely upon laboratory assistance alone. We are in danger of losing our clinical diagnostic ability. This is more true of the average medical man than of dermatologists. In my opinion, the latter, by reason of their training and experience, are the best qualified to make an accurate clinical diagnosis of syphilis.

Ernest Dwight Chipman, M. D. (350 Post Street, San Francisco)—Very little comment is necessary on Dr. Scholtz's presentation of arguments relative to the recognition of the clinical signs of syphilis. No matter how much aid the laboratory offers in general, there come many cases in which the recognition of specific stigmata is the determining factor. In some instances where the decision is held in abeyance, even inferential signs such as the tendency to grouping, polymorphism, broken circles or the localization will be of weight. For this reason there still remain opportunities for those trained in the clinical recognition of syphilis to render important service.

The question of selective tissue affinity of different strains of spirochetes is one of much interest. I had

supposed that the view expressed by Dr. Scholtz had received rather general acceptance, and that the behavior of spirochetes in this regard somewhat paralleled that of streptococci. I have heard of instances in which several individuals infected from the same source suffered alike in early involvement of the nervous system. Observations such as this are ot undoubted significance and serve to emphasize the clinical side of the question. Dr. Scholtz, I take it, welcomes all the aid the laboratory can afford, but just as the internist does not dispense with his thermometer and his stethoscope because a laboratory sometimes finds tubercle bacilli in the sputum, so the dermatologist does not discard his clinical understanding because in some instances the laboratory diagnosis is easy.

Robert A. Kilduffe, M. D. (Hollingsworth Building, Los Angeles) — The widespread incidence of syphilis and the protean character of its manifestations combine to make Dr. Scholtz's paper of interest to all physicians, not alone because of its descriptions of the dermatologic manifestations of syphilis, but primarily because it again calls needed attention to several important but neglected principles in the recognition and management of this disease; principles which have been frequently reiterated and discussed in the current literature of recent years, but which, nevertheless, are sometimes more honored in the breach than in the observance.

The first of these has never been better expressed than by Osler's dictum: "Know syphilis and all else shall be added unto you."

Dr. Scholtz again emphasizes the importance of diagnosis and again calls attention to the fact that diagnosis implies and necessitates clinical observation and study of the patient with the disease. Mere study and observation and the eliciting of a history, however—which, by the way, seems somewhat in danger of becoming a lost art—are not of themselves sufficient. The findings so obtained must be **interpreted**, evaluated, and applied to the particular case, and the value and correctness of the interpretation cannot be dissociated from the skill and ability of the practitioner. He must be able to gather information and able to correlate and interpret it, and in no instance is this of greater importance, nor more neglected than in the utilization of laboratory findings which, after all, are not in themselves pathognomonic procedures, but merely methods of gathering information not otherwise obtainable and which must be correlated and interpreted in conjunction with all the other findings.

The clinical use of the complement-fixation reaction in syphilis—for practically only the name remains of the original technic described by Wassermann—is too often a flagrant example of the misuse and malinterpretation of laboratory examinations. It should be merely a phase of the clinical study of syphilis instead of constituting, as is true in a regrettable number of cases, in conjunction with a more or less perfunctory history and physical examination, almost the entire examination as to the presence or absence of syphilis as a diagnostic possibility.

The complement-fixation test in syphilis is not an infallible procedure. Its value is intimately associated with the method employed; its delicacy and reliability; and with the skill and training of he who employs it. In other words, just as the clinician assures himself of the ability of his surgeon, so should he be assured of the ability and experience of his serologist.

The Wassermann report is merely the report of the result obtained with the specimen examined. It does not of itself and by itself alone warrant an unreserved diagnosis of syphilis, any more than a single negative report warrants the casting aside of such a diagnostic possibility or the statement that such a patient is now cured. A single negative result can never be permitted to overshadow suggestive nor positive clinical findings; neither can a single negative physical examination be used as a warrant for overthrowing a positive complement-fixation reaction made by a properly checked and controlled technic and a competent serologist. Under these circumstances, at least a thorough and exhaustive study of the case is indicated before syphilis can be cast aside.

The demonstrations of Warthin of spirochete pallida in the blood vessels and other tissues of patients without symptomatology and the finding of McConnell of a positive Wassermann in a patient with evident malaria and not a single demonstrable lesion of syphilis until autopsy when spirochete were found in the aorta; the frequent detection of asymptomatic and latent syphilis by a positive complement-fixation test as the only evidence during life, and many other similar observations to be found in the literature carry their own moral.

While it is of value to note the characteristic and typical nature of the lesions so ably described by Dr. Scholtz, it is also well to recall that a too blind reliance upon "typical" findings may lead to disaster. The dark field has taught us that "typical chancres" may not be chancres and that very atypical sores may be teeming with spirochete. Knowing the tendency of syphilis to mimic numerous dermatolic nonsyphilitic conditions, the absence of a typical appearance is not to be too much relied upon as signifying the non-luetic character of an obstinate lesion.

The question of the existence of "neurotrophic" and "dermotrophic" strains of spirocheta pallidum with predilections for various tissues or organs of the body is far from settled, and there is no direct evidence leading as yet to the demonstration of the correctness of these theories. While definite evidence for or against this supposition is yet to be adduced, studies in the reaction to experimental syphilitic infection have failed to bring evidence to corroborate it, and have shown, beyond cavil, that variations in the clinical response to syphilis may be and are influenced by other factors of, perhaps, greater importance such as the resisting mechanism of the host and the disease-producing properties — that is, the aggressiveness and virulence—of the infecting strain.

The work of Brown and Pearce in experimental syphilis has demonstrated a direct relation between the degree of (defensive) reaction at the site of invasion (the primary lesion) and the degree of systemic involvement later exhibited, and has led to their expression of these factors in terms of "the law of inverse proportions" and the "law of progression or sequence."

The law of inverse proportions expresses the thought that the duration of any active manifestation of syphilis is inversely proportional to the intensity and extent of the initial local reaction; and the workings of this law have been experimentally shown.

The law of progression is based upon the fact that, when allowed to pursue an undisturbed course, syphilis tends to preserve, in the experimental animal, "an orderly progression with varying degrees of intensity and extent. This characteristic of the disease is attributable to the fact that different groups of tissues are not equally adapted to the growth and multiplication of the spirochete on the one hand, and that they are not equally sensitive nor reactive to the toxic effects of the organisms on the other. Moreover, there is a natural order of susceptibility and of involvement, and the protective influences arising from reactions taking place in one group of tissues is extended to others in an equally orderly fashion. Under normal circumstances, therefore, the sequence observed in the occurrence of the manifestations of the disease may be regarded as an orderly progression whose direction is determined by the relative susceptibility of different tissue groups and whose limits are fixed by the sequence and extent of the defensive reactions. Hence, it may be said that the manifestations of the disease presented in any given instance depend, not only on the general laws which govern syphilitic reactions, but also on a number of other circumstances which includes any and all con-

ditions affecting the initiation of the infection, the resistance of the host, and the pathogenic properties of the organisms themselves."

Doctor Scholtz (closing)—I wish to express my appreciation of the generous and interesting discussion accorded my paper. I wish to acknowledge also the fair and unbiased attitude of the part of Dr. Kilduff. It seems that the profession at large went much farther in their belief in the infallibility and pathognomonicity of the Wassermann test than serologists themselves are willing to go. It is gratifying to a clinician to hear serologists calling halt on the overzealous believers in the Wassermann test and reminding them that laboratory findings should not be considered alone, but only in correlation with clinical findings. This is precisely the keynote of my paper, which is merely a plea to return to the clinical basis of diagnosis of cutaneous syphilis, using the laboratory only as an additional source of information.

Mental Defectiveness Among Rural School Children in England—Doctor G. K. Bowes (Lancet), after two and one-half years of study of rural school children in England, arrives at the conclusion ,'that, in the rural area examined, there exists among the school population a very high proportion of mentally defective children. The number so ascertained amounted to 3 per cent of the school population under review, and of this percentage 5 per cent were classified as imbeciles, and 2.5 per cent as feebleminded. There is reason for thinking that the actual percentage found fell short of the real number present, and that this number was probably somewhere in the neighborhood of 4 per cent, or even higher. The mentally defective children were in most cases the offspring of generally degenerate stocks, the members of which were incapable of performing in any adequate way the duties and responsibilities of citizenship, but who were not incapable of earning a living of some sort in a rural environment. We thus obtained a picture of the kind of adult into which the mentally defective child was likely to develop."

More Misbranded Nostrums (reported by Council on Pharmacy and Chemistry of the A. M. A.)—The following products have been the subject of prosecution by the federal authorities charged with the enforcement of the Food and Drugs Act: Doane's Kidney Pills (Foster-Milburn Co.), consisting essentially of potassium nitrate, ground leaves of ura ursi, a trace of volatile oil, such as turpentine or juniper oil, a resin, starch, sugar, and talc. (For years the advertising of "Doane's Kidney Pills" has long been an offense against the public health. Its advertising methods have been such as to frighten the public into the belief that pain or soreness in the lumbar region is indicative of kidney disease.) Lafayette Headache Powders (Lafayette Co.), consisting essentially of acetanilid, daffein, sodium bicarbonate and aromatics, including cinnamon and ginger. Grogan Mineral Water (Grogan Wells and Boone Institute of Massage), containing large numbers of bacteria and gas-forming organisms, indicating that the water was polluted.—Journal A. M. A.

Inhalation of "Carbona" (Propaganda for Reform, reported by Council on Pharmacy and Chemistry of the A. M. A.)—A periodic drinker used the cleaning fluid "Carbona" to produce unconsciousness when inhaled. Carbona contains carbon tetrachlorid as its essential constituent; carbon disulphid being generally present also. Carbon tetrachlorid has been tried as a general anesthetic and found unsatisfactory. The carbon disulphid greatly increases its toxicity when inhaled.—Journal A. M. A.

THE FREQUENCY OF ENDOGENOUS ENDOCRINE OBESITY AND ITS TREATMENT BY GLANDULAR THERAPY *

By H. LISSER, M. D., San Francisco

Obesity may have serious consequences quite apart from the aesthetic or cosmetic point of view.

Radical diet restriction often reduces weight, but cannot be termed a "cure" because it fails to correct the fundamental cause of such incretory obesity.

The chemistry of obesity is still quite obscure.

Several glands exert a powerful influence on the shape and bulk of the human body.

Neither 99 per cent nor even 50 per cent of obesity is entirely exogenous.

A mere restriction of food intake only scratches the surface, but neglects the underlying cause.

Failure to exercise and lethargic habits are not always due to laziness.

It is embarrassing to note how often goiters are overlooked.

Gland extracts are no panacea for fat people.

When pituitary, ovarian, and testicular extracts are as potent and reliable as thyroid and insulin, there will be far fewer fat people.

There is no royal road to reduction, whether it be by diet cure, victrola cure, roller cure, or gland cure.

I venture to predict that the supreme triumph will come in the end from the isolation of hormones specific for certain types of adiposity, just as the pinnacle of diabetic research was reached in insulin.

Obesity is a common affliction. In many instances it is a condition traceable through several generations. It is a question whether in such patients an inherited glandular predisposition causes the accumulation of weight, or whether family habits of diet and activity are primarily responsible. Undoubtedly, many people consume too much highly nutritious food and exercise insufficiently, especially after thirty, and consequently acquire superfluous flesh. Such obesity is exogenous, and proper dietary restriction and judicious advice regarding exercise will effect the desired reduction.

Obesity may have serious consequences quite apart from the aesthetic or cosmetic point of view. Such persons are prone to fall victims to diabetes mellitus, as repeatedly stressed by Joslin, also more apt to develop cardiovascular and renal disturbances as a result of extra strain on these organs, and often complain of aches and pains in the back and limbs from the heavy drag on the spine and muscles.

The view that an overwhelming majority of obese individuals owe their adiposity to excessive food intake and lack of exercise is probably exaggerated. Most of us are acquainted with people who eat lightly and are very active, but who nevertheless accumulate fatty tissue. Likewise, we are aware that many persons eat heartily, are not especially athletic and yet remain thin. In fact, it becomes as difficult to *reduce* the weight of the *former* by diet restriction, as it is to *increase* the weight of the *latter* by forced feeding. Normal food intake and normal exercise will not avail with such individuals because an underlying factor is responsible which is not sufficiently recognized in diagnosis and not given proper consideration in planning treatment.

* Read before the Fifty-third Annual Session of the California Medical Association, Los Angeles, May, 1924. Lantern slides were used to illustrate the address, which are not reproduced in this publication.

This factor is an abnormal faulty metabolism, the control of which is to a large extent dominated by the glands of internal secretion.

Radical diet restriction often reduces weight, but cannot be termed a "cure" because it fails to correct the fundamental cause of such incretory obesity, and after terminating the so-called "cure," fat again accumulates when a full diet is resumed. Most reduction "cures" effect only temporary and not permanent reduction. It may be remarked in passing that, for practical purposes, weighed diets, in which caloric values are carefully estimated, prove too irksome for the average patient. The argument that such quantitative diets are constantly taught diabetics, where such instruction is imperative, does not prove their necessity or applicability to the majority of obese individuals. Furthermore, it is to be remembered that the chemistry of obesity is still quite obscure and not to be compared with our knowledge of the metabolic disturbances in diabetes mellitus. That sort of menu which requires reasonable restriction of fats and carbohydrates, but is sufficiently varied and attractive as to permit its habitual use indefinitely, is simpler, preferable, and more satisfactory over a long period of time. Indeed, this type of diet is all that is necessary or desirable in patients whose obesity is largely dependent on endocrine deficiencies.

Several glands exert a powerful influence on the shape and bulk of the human body. These, principally, are the thyroid, pituitary, and ovaries in women and the corresponding organs in the male sex. Insufficient function of any one, or of two or three of these glands at the same time, will almost invariably produce adiposity and often of extreme grade. One need but mention the rapid gain in weight that often follows the artificial or natural menopause; or castration in the male; or the obesity of myxedema; or dystrophia adiposo-genitalis (Froehlich's syndrome). The obesity of children is almost always of incretory origin, unless some chronic disease has kept the child confined to bed or in a chair for a year or more. It is notorious that children can eat enormous quantities of food without becoming abnormally heavy. As Mendel, the great authority on nutrition, phrased it, "No normal boy or girl can overeat." The "fat boy" or "fat girl" demands careful study of their ductless glands, and proper glandular therapy prior and during adolescence is very important for their future. Obstetricians should cease congratulating proud mothers on fat babies that weigh nine pounds or more at birth. There are various types of obesity, the deposition of fat varying in its location according to the gland primarily at fault. The administration of the proper gland extract by mouth and by injection helps materially in reducing such patients and improving their health generally. Such extracts are not dangerous if given in proper dosage and if the patient is kept under observation until his tolerance is properly estimated and established.

Determination of the basal metabolic rate is helpful, but the institution of glandular therapy (even thyroid extract) should not depend solely on this test. Many obese patients have a normal metabolic rate, and despite this fact can sometimes tolerate large doses of thyroid extract without toxic symptoms and without raising the rate above normal limits. This latter statement may occasion some surprise, but it is based on experience that will bear scrutiny. The metabolic rate should not be neglected, but should be interpreted in conjunction with and in relation to the clinical findings. The dictum that thyroid extract is invariably contra-indicated in patients with a normal metabolic rate is not tenable. But it would be most unwise to deduce from this that thyroid extract can be given recklessly. Every physician should be perfectly familiar with the many signs and symptoms of thyrotoxicosis, so that he may be able to control its administration.

It is obviously beyond the confines of this paper to describe in detail the various types of ductless gland disease in which obesity is a common and prominent symptom. This would necessitate a veritable treatise on endocrinology. Many excellent text-books are available, such as Falta, Cushing, Barker in Monographic Medicine, etc. There is nothing original in the observation that obesity is a striking symptom of incretory deficiencies. The object of this paper is merely an attempt to stress its frequency, and to oppose the attitude too commonly held that 99 per cent, or even 50 per cent, of obesity is entirely exogenous. It is difficult to present scientific evidence in support of such a contention that would be "bullet-proof." This would necessitate a research experiment not readily accomplished. A series of patients would have to submit to incarceration in a metabolism ward of a hospital for at least six months, under such strictly controlled conditions that one could be positive of their exact food intake. If such patients on a 1200 to 1500 calorie diet did not lose, but when appropriate gland extracts were added (the diet being kept the same) loss of weight occurred, one could feel justified in the assumption that their obesity was endogenous and of endocrine origin.

A large appetite and a craving for sweets and starches may characterize a glutton, but it is to be remembered that this craving may itself be pathological, and depend on hypopituitarism. The hunger, thirst, and high sugar tolerance of these patients is well known. A mere restriction of food intake only scratches the surface, but neglects the underlying cause. Results would be temporary, because the patient rarely persists against an abnormal appetite difficult to control. Gland administration to supplement the patient's gland deficiency is a sound logical procedure. Perhaps a striking parallel will reinforce the above argument. Subjects of diabetes mellitus, suffering from deficiency of pancreatic island hormone, are hungry for sweets and starches, have ravenous appetites ofttimes, and frequently complain of extreme thirst. These symptoms are recognized as due to insulin deficiency and are promptly relieved by insulin injection.

On the other hand, subjects of hypothyroidism or myxedema are obese, despite a very low caloric intake. Their appetites are poor, they consume relatively meager quantities of food, but they gain weight nevertheless. To attempt mere diet restriction in such cases is almost ludicrous, for it is akin to subtracting something from nothing. On the

A STUDY OF ENDOGENOUS ENDOCRINE OBESITY.

No.	AGE	SEX M.- Male F.- Female	? MARRIED	OBESITY IN FAMILY?	ONSET + DURATION OF OBESITY	TYPE OF MENSTRUAL DISTURBANCE	BASAL METABOLIC RATE %	HEIGHT	IDEAL WEIGHT	ACTUAL WEIGHT	LOSS UNDER TREATMENT	LENGTH OF TREATMENT	TYPE OF ENDOCRINOPATHY	RESULT
1.	38	M	Single	(No)	Following typhoid fever Onset age of 23	——	45.2—	5ft. 6½in	145½ lbs.	176 lbs.	33 lbs.	6 months	Adult Myxedema	Excellent
2.	33	F	Married	Yes	following 1st pregnancy aged 18	regular but scanty.	27.5—	5ft 7 in	148 .	265 .	43 .	9 .	Pluriglandular Obesity	Fair - stopped treatment
3.	60	F	.	(No)	following menopause at 48	——	22.2—	5ft 2 in	121 .	222 .	34½ .	2½ .	Adult Myxedema X	Good - still under treatment
4.	21	F	Single	Yes - mild	Onset 10 years of age	scanty, then intervals of 2 & 5 mos	20.5 —	5ft 2 in	121 .	196 .	35 .	8½ .	Adolescent Hypofitiuitarism + Hypothyroidism	Good - still under treatment
5.	43	F	Married	(No)	Onset 25 - - -	regular, scanty	19.1 —	5ft 5 in	137½ .	174 .	19 .	4 .	Adult Hypothyroidism Bl. 99%	Good
6.	27	F	.	(No)	Onset Hysterectomy aged 26; gained 20 lbs in 5 mos	Intervals of 2-6 mos.	20.7 —	5ft 2 in	121 .	218 .	27 .	6 .	Primary Hypoquadism with hypothyroidism	Fair - stopped treatment.
7.	24	F	Single	Yes	Always fat	scanty at 18½, intervals of 6 mos. to a year	18. —	5ft 7½in	151 .	197 .	35 .	6 years	Adolescent Eunuchoidism XX	Good - still under treatment
8.	10½	F	.	Yes - mild	. .	——	12.2 —	4ft 8½	95 .	128 .	32 .	6 months	Preadolescent Hypothyroidism X	Excellent
9.	22	F	.	(No)	. .	Normal	7.6 —	5ft-6½	140 .	287½ .	58½ .	6 .	Thyro - Pituitary Obesity	Excellent
10.	30	F	.	(No)	. .	utterly irregular— Amenorrhea for 2 yrs	11. —	5ft 2½	123½ .	232½ .	22½ .	5 .	Pluriglandular Insufficiency	Fair - still under treatment
11.	15	F	.	Yes - mother		severe dysmenorrhea	5.4 —	5ft 6½	145½ .	182½ .	14 .	3 .	Adolescent Thyro - Pituitary Dysfunction X	Fair still under treatment
12.	45	F	Married		onset 29 years of age	Normal scanty + prolonged intervals	5. —	5ft 3	126½ .	256 .	64½ .	1½ years	Acromegaly followed by Hypopituitarism	Excellent
13.	19½	F	.	(No)	general fat for onset Hypo		4.9 —	5ft 5	137½ .	182 .	39 .	7 months	Adolescent Goiter; Post Adolescent Hypopituitarism	Excellent
14.	25	M	.	Yes	Onset typhoid fever aged 7 years	——	4.2 —	5ft 8	170½ .	297 .	31 .	2½ .	Thyro - Pituitary Obesity X	Good - still under treatment
15.	20	M	Single	(No)	Always fat	——	1.5 —	5ft 8	154 .	291 .	50 .	8 .	Thyro - Pituitary Obesity X	Good - stopped treatment
16.	24	F	Married	Yes	Onset 2 years (5th)	5-8 weeks interval	0.4 —	5ft 1	115½ .	215 .	38 .	1 year	Post Adolescent Thyro - Pituitary Obesity	Good - still under treatment
17.	29	F	.	(No)	following pregnancy 1st	scanty	1.3 +	5ft 4	132 .	156 .	27 .	4 months	Hypopituitarism following pregnancy	Excellent.
18.	36	F	.	(No)	Onset age of 20 years	scanty	4.1 +	5ft 1	115½ .	271 .	31 .	8½ .	Post-Adolescent Thyro-Pituitary Obesity	Good - still under treatment
19.	18	M	Single	(No)	Onset age of 14 years	——	5.2 +	6ft 1	181½ .	197 .	15 .	6 .	Eunuchoidism + Epilepsy (X)	Excellent
20.	25	F	.	(No)	— . . 20 .	interval of 5-6 weeks scanty	5.9 +	5ft 5	137½ .	160 .	21 .	6 .	Adolescent Hypopituitarism XX	Excellent
21.	59	F	Married		Onset menopause aged 52	——	6.8 +	5ft 9	160 .	250½ .	58½ .	1½ years	Acromegaly followed by Hypopituitarism	Excellent
22.	31	F	.	Yes	Onset Amenorrhea aged 28	Amenorrhea onset yrs	7.9 +	5ft 6½	145½ .	184½ .	40 .	1 year	Adolescent Hypopituitarism	Excellent
23.	16	F	Single	Yes - mild	Onset probably aged 12.	Interval 6-7 wks scanty	8.3 +	5ft 1	115½ .	168 .	45 .	2½ years	Adolescent Hypopituitarism + Epilepsy XX	Excellent
24.	18	F	.	(No)	Onset amenorrhea	Amenorrhea Onset 1½ yrs	9.7 +	5ft 1	115½ .	145 .	25 .	11 months	Adolescent Goiter + Hypopituitarism	Good
25.	38	F	.	(No)	always fat	intervals 5 weeks - 8 months	12.2 +	5ft 5½	140 .	197½ .	35½ .	7 .	Colloid Goiter & Hypothyroidism + Hypopituitarism	Excellent
26.	36	F	Married	(No)	. .	5-6 weeks intervals	13.3 +	6ft	176 .	256 .	24 .	10 .	Gigantism & Hypopituitary Obesity XX	Fair - still under treatment
27.	32	F	Single		first year, Onset Irregular	Normal	22. +	5ft 6	143 .	158	30 .	4 .	Toxic Adenoma + Post Adolescent Hypopituitarism	Excellent
28.	14	F	.	(No)	first 8 years	Normal	——	5ft 3½	129 .	164	15 .	3 .	Adolescent Thyro - Pituitary Obesity X	Fair - still under treatment
29.	27	F	Married	(No)	Many years	scanty	——	5ft 1	115½ .	176	16 .	4 .	Pituitary Cranial Obesity	Fair - still under treatment
30.	23	F	Single		first 3 years following influenza	Dysmenorrhea + scanty	——	5ft 3½	129	196	54½ .	1 year	Post Adolescent Hypopituitarism XX	Excellent

X — Only Thyroid extract used. XX — only pituitary extracts used (X) - only testicular implants have used.

other hand, administration of thyroid extract or thyroxin actually stimulates their appetite, but they lose weight. A sluggish metabolism has been stirred into activity and efficiency.

Failure to exercise and lethargic habits are not always due to laziness; they are themselves characteristic symptoms of hypothyroidism, hypopituitarism, and hypogonadism. It is hardly fair to demand much agility from a cretinoid child, a Froehlich's type, or a eunuchoid. It may be objected that these conditions are rare and that the overwhelming number of obese individuals are not examples of these diseases. As a matter of fact, even the outspoken instances of these maladies are by no means rare, though frequently not recognized; whereas, the milder forms of these deficiencies are far more common than is generally appreciated. Moreover, it is just the milder "formes frustes" types that offer more difficulty in diagnosis, but that rewards one's recognition of them by readier response to proper substitution therapy. The "little signs" are often there if one but looks for them and is familiar with them.

It is embarrassing to note how often goiters are overlooked and their correct differentiation (adolescent, colloid, hyperplastic, adenomatous, etc.) neglected. It is surprising how little attention is paid to the character of the skin, whether it be smooth or rough, warm or cold, dry or moist; the quality, texture, amount and distribution of the hair; the appearance, condition, and position of the teeth; the character of the nails; the shape of the hands and fingers, the location of the fat (whether nuchal, cervical, pectoral, girdle, trochanteric, or extending to the wrists and ankles). It is unfortunate that questions directed to the menstrual history are often casual and indefinite, when precise information about age of onset, length of interval, regularity, and amount might disclose significant data. X-ray investigation to note appearance of the bone nuclei and closure of the epiphyses in relation to chronological age are not sufficiently utilized, when their assistance might clinch the diagnosis. Refuge is often taken in the "wise observation," that there are wide variations within the normal, as if that condoned an inattention to detail. A lack of interest or understanding is disguised in the sage and comforting reassurance to the mother of the fat boy or girl—that "nature often adjusts these disturbances," secure in the knowledge that Nature sometimes does, but not concerned apparently when nature sometimes doesn't, until valuable years have slipped by when treatment would have been most effectual.

Gland extracts are no panacea for fat people. Many times they are not necessary, sometimes they are positively contra-indicated. No one method of weight reduction is applicable to all cases, whether it be any one of a score of weird diet cures, victrola cures, roller cures, or gland cures. Each case requires individual study, thorough investigation, careful, persistent, long continued treatment and observation. Nor will prompt and brilliant cure invariably follow in those cases where gland extracts are indicated, for the extracts available leave much to be desired. When pituitary, ovarian, and testicular extracts are as potent and reliable as thyroid and insulin, there will be far fewer fat people. But even in their present state they are not without merit, and the cases herewith tabulated demonstrate their usefulness.

Thirty cases have been selected that gave treatment a fair trial. Several are still under treatment. Detailed consideration of each case is beyond the scope of this paper. It will be noted that the great majority are females, which is to be expected. Thyroid disease is about ten times as frequent in women as in men; an ovarian dysfunction is more frequent than functional insufficiency of the testicles. Probably the menstrual function, pregnancy, and the menopause are largely responsible for this. Out of twenty-six females, one had not reached the age of adolescence; of the remaining twenty-five, eighteen gave evidence of very marked disturbance of menstrual function. About half the cases gave no history of familial obesity. Basal metabolic rates were obtained in twenty-seven of the thirty cases. Nine of these had rates below the theoretical normal; fifteen had normal readings; and three were actually above normal (one of these had a mildly toxic adenoma). The response to glandular therapy as expressed in loss of weight seemed to bear no relation to the metabolic rate. Contrary to expectation, some with low rates were difficult to reduce, some with normal rates responded promptly to therapy. Thyroxin was used in Case 1. Thyroid extract alone was responsible for weight loss in six cases marked "X." Pituitary extract (the whole gland or sometimes the anterior lobe only) was successful, without thyroid, in reducing five cases marked "XX." Implantations of fresh unextracted, untreated ram's testicular substance produced the loss of twenty-five pounds in Case 19, marked "X." In the remaining seventeen cases more than one gland extract was used, usually thyroid and pituitary in combination, in salol-coated capsules. Sometimes injections of pituitary or ovarian extracts were given. Details of dosage, preparations used, would require analysis of each case, and must be reserved for a future communication.

It would seem reasonable, then, to consider the adiposity of children and adolescents as an endocrine dysfunction in the majority of instances, demanding incretory therapy. It would seem judicious to investigate the endocrine status of obese adults between the ages of 18 and 50, and to utilize organo-therapy in conjunction with a reasonable diet and exercise where endocrinopathies are discovered. When we approach late adult life, our attitude, even in the presence of ductless gland disease, should be more conservative. We are aware that a fair percentage of women become corpulent rather rapidly after the menopause. This phenomenon might be regarded as a law of nature, with which it would be unwise to interfere. Indeed, it is feared by some that such interference is not only meddlesome, but may be dangerous and actually shorten life. Many women, however, pass the climacteric without gain in weight, and in those that do gain, an ovarian and secondary thyroid deficiency is frequently demonstrable. Mere vanity or false notions of rejuvenation are certainly no excuse for aggressive ther-

apy at this time of life, but a mild replacement regime is often indicated and distinctly beneficial, and will actually tend to prolong life by relieving the extra burden from heart, arteries, lungs, liver, kidneys, tendons, joints, and muscles.

CONCLUSIONS

1. Overeating and insufficient exercise often cause exogenous obesity.
2. The great majority of obese individuals are not fat for these reasons only.
3. Hypothyroidism, hypopituitarism, and hypogonadism are not uncommon, especially in mild degree, and are almost invariably characterized by adiposity.
4. The importance of endocrine dysfunction in producing obesity directly, and in indirectly causing the symptoms that lead to obesity (abnormal appetite and physical inertia) should be recognized in diagnosis and in planning treatment.
5. Basal metabolic rates are valuable, but not the sole index for institution of glandular therapy. A normal rate is not necessarily a contra-indication to the administration of thyroid extract, but its use should be checked by frequent rate determinations.
6. Pituitary extract alone will sometimes reduce weight.
7. Weighed diets are rarely necessary. Reasonable restriction of fats and carbohydrates is more practicable, less irksome, and usually suffices in conjunction with the proper endocrine therapy.
8. The obesity of childhood and adolescence is usually of endocrine origin.
9. One should be cautious in any and all methods of reduction in patients over 50.
10. There is no royal road to reduction, whether it be by diet cure, victrola cure, roller cure, or gland cure. Each case requires individual study.

Fitzhugh Building.

DISCUSSION

Dr. Nelson W. Janney (Pacific Mutual Building, Los Angeles)—One or two decades ago it seemed sufficient to recognize **exogenous** obesity, due to overeating and underexercise, and **endogenous** obesity, usually vaguely relegated to a "constitutional" or "familial" tendency. Due to lack of recognition of all but the most characteristic endocrinopathies accompanied by increase of fat, it was then believed that obesity was most commonly exogenous. With accumulation of knowledge of the ductless glands, it has, however, become a certainty that an endocrine etiologic factor underlies the development of overweight in most cases, as Dr. Lisser's timely paper emphasizes.

The purpose of adipose deposits is to protect other tissues to aid in retention of heat and to act as a normal reserve food and fuel supply. An excessive amount of fat in the absence of gross food overindulgence, indicates faulty metabolism. An adequate understanding of the metabolism of obesity is necessary for its proper treatment.

Intermediary metabolites of carbohydrates, protein, and fat are the materials utilized in the replacement and repair of protoplasm. Both older and recent metabolic studies have emphasized the intimate relationship of these classes of foods, and particularly the ease with which intermediary products of carbohydrates and fats may be transformed by synthesis or otherwise into components of protoplasm, fat, or carbohydrates or vice versa. As the ductless glands serve to control the growth and nutrition of protoplasm, they likewise exert, as is well known, a marked influence on the metabolism of fats, sugars, and similar hydrocarbons. One can surmise, therefore, that pathological obesity ensues as a result of failure of proper synthetic utilization of carbohydrate and fat, as well as of lack of their combustion for the production of heat. We can, therefore, more clearly understand prediabetic obesity.

The endocrine obesities in general are likewise ascribable to inability to utilize carbohydrates (therefore their increased change into adipose tissue) as well as insufficient combustion of fat. The peculiar love of sweets, not fats, so characteristic of cases of Froehlich's pituitary syndrome is probably an expression of "sugar hunger" of the cells. The fact that reduction of obesity in endocrine cases is difficult without the proper exhibition of ductless gland extract would be accounted for on a similar basis. No explanation can, however, be offered as to why the endocrine deposits are so characteristically localized to certain body areas: viz., the pituitary fat girdle, the gonadal trochanteric masses, the nuchal, supraclavicular, and the external malleolar thyroid pads.

The marked muscular fatigability attending developed cases of endocrine obesity can probably be explained by lack of hormones essential for the replacement and the repair from intermediary metabolites of the rapidly depleted myoplasm. There is a marked frequency of myocardial enlargement in endocrine cases of long standing which is probably due to the same cause in the absence of other etiology.

Systematic graduated therapy and careful instruction of the patient is essential for success in the treatment of endocrine obesity. In pluriglandular cases it is well to establish the optimal effect by regular variations in the doses of each endocrine extract in turn, and later in combination. Although weighed diets are rarely required, a dietitian's assistance is of value in meeting the individual requirements and tastes of different individuals. Exercise must be cautiously prescribed in asthenic endocrine cases, in which loss of weight had usually best be limited to 5 to 10 pounds monthly regularly obtained. Violent reduction may be followed by collapse. Self-hypodermic administration of ductless gland preparations is often advisable, just as in the case of diabetics treated with insulin. Subjects of endocrine obesity, particularly pituitary, are temperamental, apprehensive, sensitive and weak-willed, requiring frequently considerable exercise of patience and tact in their management.

Victor G. Vecki (516 Sutter Street, San Francisco)—I want to compliment Doctor Lisser on his paper, and to emphasize the great importance of the standardization and mainly the obtaining of reliable organic preparations, and to reiterate once more how inexplicable is the fact that so many evident endocrine dystrophies are being overlooked and disregarded by some of our best medical men.

F. M. Pottenger, M. D., (Monrovia, Calif.)—I wish to compliment Doctor Lisser on his excellent work in this important field of medicine. Endocrine disturbances are facing us in our practice daily, and yet until comparatively recent times only a very few of them were recognized.

A very large group of people suffer from obesity. It was formerly thought that this was due to overeating and lessened exercise. We now know, however, that there are certain glands of internal secretion whose function influences greatly the shape and size of the body. In cases of obesity a hypo-function of three glands particularly should be thought of, namely, the thyroid, the pituitary, and the gonads; and then if one learns the particular type of obesity which follows these, he has a clue not only for diagnosis, but for therapy. Doctor Lisser points this out very well in his paper.

Any fat individual who retains weight on small quantities of food should be looked upon as showing endocrine disturbance. Failure to exercise and lethargic habits, instead of being a cause of obesity as is thought in certain types of individuals, particularly those of a hypothyroid nature, are not the cause

of the obesity, but are concomitant symptoms of the hypothyroidism present.

I was particularly interested in the plea for the recognition of the underlying endocrine factors in the fat boy and girl. There are certain times when endocrine, dysfunction can be influenced more easily than others, and one of these times is about the age of puberty. I have seen numerous cases of hypothyroidism show up at this time, and if it is recognized the detrimental influence upon the sexual characteristics of the child may be prevented.

In these glandular obesities it should be remembered that the metabolic rate in many of them will tell us nothing. It cannot be relied upon as a basis for diagnosis or therapy. The general medical man is most interested in the therapeutics of these various conditions, but he cannot carry out a successful therapy unless he makes accurate diagnoses.

There are many things which interfere with satisfactory therapeutic results. First, wrong diagnosis; second, making the diagnosis too late; third, unsatisfactory therapeutic products. It is up to the medical profession to remedy the first and the second; the third must be remedied by biologic laboratories. There are great quantities of worthless endocrine products being prescribed today, but by a close co-operation of the clinician and the biologic laboratory, this should in time be remedied.

Very important progress has been made in this work in recent years, and we now have adrenalin, thyroxin, insulin, pituitrin, a preparation from the corpus luteum, and the promise of active preparations from the anterior pituitary and the ovary. Nor can we deny that results are now being obtained from other preparations which cannot be looked upon as being very constant in their action.

What is needed most in the development of endocrinology is the bringing together of careful clinical and laboratory observations in the study of the clinical picture, and an earnest attempt on the part of the biologic laboratories to give us the best possible glandular preparations for therapy.

W. D. Sansum, M. D., (Santa Barbara, Calif.)—Dr. Lisser's paper brings added proof to a growing belief that a very large percentage of the pathologically obese individuals have some form of endocrine disturbance. His work has materially added to our knowledge of the relation existing between obesity and pituitary and ovarian dysfunctions. We are still handicapped by a lack of clinically proven endocrine products that are active when given orally. But Dr. Lisser's work indicates that some of these substances are effective when coated with salol and given in fairly large doses.

There is one phase of the food requirements of the obese which, I believe, is not fully appreciated by all. Aside from any endocrine disturbance, the obese individual actually needs much less food for maintenance purposes than do individuals in the normal states of nutrition. The abnormal layer of fat, like an asbestos covering over a stationary engine, prevents the loss of heat and increases the efficiency of the food used. I have under my care in the hospital, at the present time, an obese woman who failed to lose any weight on an accurately weighed, nearly fat-free, 1200 calorie diet, although she was walking six miles per day. We found it necessary to reduce her diet to 950 calories per day before she began to lose weight at the rate of two pounds per week. The addition of 30 grains per day of anterior pituitary extract, given in uncoated tablets, failed to cause her to lose weight at a greater rate. I shall next add some form of hypodermic, pituitary medication.

Doctor Lisser (closing)—It is gratifying to receive such cordial agreement from those that discussed this paper. Opposition was expected, for this is the customary attitude toward those that espouse endocrine therapeutics nowadays, be they ever so conservative. The abuse of organotherapy has been so flagrant that the profession has come to demand a specificity and potency from endocrine products, far beyond what they are accustomed to expect from the myriad medicaments they prescribe in daily practice. What drugs in the entire pharmacopeia can compare with thyroid extract, insulin, adrenalin, and pituitrin? Very few—digitalis in auricular fibrillation, opium and its derivatives for pain; mercury, salvarsan, quinine, and ipecac (emetin) as bacteriacidal agents; an antitoxin or two, a serum or two, and a few other drugs, perhaps! Shall we discard the remainder because they are not brilliant specifics? Most of us lack patience in our therapeutic efforts. We expect striking results in a week or two. Such an attitude will invariably fail in chronic ailments, and the great majority of endocrine diseases are chronic, and obesity is chronic.

Meanwhile, I join heartily in the plea of Doctors Janney, Vecki, Pottenger, and Sansum, for more potent standardized preparations from ovary, testicle anterior pituitary, adrenal cortex, parathyroids, thymus, and pineal. The work of Allen and Doisy on an ovarian hormone is most encouraging, and we await daily news from H. M. Evans that his anterior lobe pituitary extract is available for clinical trial.

It would be a boon to humanity, if a galaxy of metabolic experts such as Joslin, Allen, Woodyatt, Banting, Wilder, Sansum, Janney, and others concentrated their energies and capacities on the chemical, metabolic, endocrine investigation of obesity, and achieved for this huge group of uncomfortable people, a relief such as they extended to sufferers from diabetes. And I venture to predict that the supreme triumph will come in the end from the isolation of hormones specific for certain types of adiposity, just as the pinnacle of diabetic research was reached in insulin.

THE GODINO TWINS *

By R. H. VAN DENBURG, M. D., Los Angeles

The Godino twins, natives of the Philippine Islands, are the adopted sons of Mr. Yangco, who represents the Philippines as commissioner to the United States.

At the time these studies were made in Johns Hopkins, they were 11 years of age. They are joined together by a band of fibrous tissue, which measures eighteen inches in circumference, and is in the region of their lower sacrums. The tissue is quite dense and firm, but somewhat flexible.

Lucio is a trifle taller and heavier than his brother, Simplicio. His manner is somewhat more reserved and he is a better conversationalist, as well as a better student.

Simplicio is quick in manner, restless, and asks a multiplicity of questions, rather fearful that someone may do harm to him, and often asked, "Which one of us are you going to kill?"

They both are well educated, speak English fluently, and are quite proficient in vocal and instrumental music. They are extremely proud of their ability to attract attention, which they do wherever they go. They play baseball, tennis, and enjoy all sports common to boys of their age, which they do better than some others not handicapped by a bonded partner.

When they were posing for their pictures they were hard to restrain, yet they enjoyed the "camera snap" and were curious to see everything that took place, but wanted everything to "hurry up." They

* Read to Section on Urology at the Fifty-third Annual Session of the California Medical Association, Los Angeles, May, 1924.

FIG. 1
The Godino twins, joined together since birth, as they appeared at 11 years of age.

FIG. 2
Photograph showing the bond of tissue that joins them together.

FIG. 3
Photograph showing one brother holding the other without aid or support.

would not lie on a rug, but threw it from underneath them, and preferred to lie on the tile floor, as you will notice from the picture.

It was interesting to see how well they adapted themselves to locomotion; one would start to walk or run, and his brother would be swung around and immediately caught his step, which he performed going backward. Then the other one would turn either to the right or left and swing his brother around to his back and proceed at a normal rate of speed with apparently no loss of time. They walk as fast as any person would walk, ordinarily, and can run quite fast. In running, if the one ahead wished to go faster, he simply bent forward and carried his brother on his back. We never heard them argue or quarrel about anything, and each seemed satisfied if the other one accomplished the thing he originally set out to do.

In studying their urogenital tracts, the intramuscular phenolsulphonephthalein test was used on succeeding days. They would not permit us to use the intravenous method, as they did not quite understand it to their satisfaction.

PHTHALEIN TEST—ONE HOUR

	Amount cc. one hour	Specific gravity	Per cent phthalein	Appear. time
Lucio (as host)	476	1008	44	6 min.
Simplicio	435	1008	0	None in 3 hours

	Amount cc. one hour	Specific gravity	Per cent phthalein	Appear. time
Simplicio (as host)	400	1007	48	7 min.
Lucio	510	1006	0	None in 3 hours

From this we may conclude that there is no connection between their urinary tracts. We may also conclude that there is no connection or perceptible interchange of their blood streams. While it is true that simultaneous urination takes place, it apparently is wholly psychic in character and probably is acquired from habit and association.

In studying the coccyx of each, we found that Lucio had a perfectly formed, normal coccyx, rather well developed, while Simplicio presented a rather rudimentary type with the tip or last bone missing.

The chief difficulty we found in their lower intestinal tracts. A careful study reveals that Lucio, the larger twin, has a normal rectum with a functioning anus, while Simplicio has no anus, and his rectum empties into that of his brother. Where his anus should be is only a slight depression that admits the tip of the little finger for about one-quarter of one inch. We were unable to get a radiographic

FIG. 4
A close-up photograph of the bonded union, which also shows but the one anal opening.

picture, as they would not submit to the test of injecting the lower bowel.

SUMMARY AND CONCLUSIONS

1. The union joining the twins is fibrous and not bony, and measures eighteen inches in circumference.

2. It is flexible and somewhat elastic, as demonstrated when one brother holds the other at right angles.

3. There is no inter-relation between their urinary tracts, as evidenced by the phthalein test.

4. There does not appear to be any perceptible interchange between their blood streams.

5. Lucio has a perfectly formed coccyx.

6. Simplicio has a rudimentary coccyx.

7. Lucio has a functioning rectum and anus.

8. Simplicio has an imperforate anus.

9. The rectum of Simplicio empties into that of his brother, Lucio.

10. From these studies we feel convinced that these twins could be separated with comparative ease without jeopardizing the life of either.

11. The chief difficulty lies in the operation on the rectum of Lucio, and the rectum and sigmoid of Simplicio.

12. Whether the artificial anus of Simplicio would function could only be determined by operation.

548 South Spring Street.

Women's Magazines That Read Like Quack Medical Journals—"Many pages of several women's magazines are filled with untrue information in physiology and hygiene, dressed in attractive form and color, and repeated over and over every week or month," says the New York State Journal of Medicine editorially. "And alongside of the misinformation there may be a column or two of real information on some food topic or hygienic measure, but the scientific article is seldom repeated or dressed attractively. Moreover, the advertisements force themselves upon every reader, while the scientific article is read by only a small group, and is studied by still fewer."

Just Doing Nothing—"So I'm going to a place I know well, where there are no papers and no telephones, and where the mails are three days late. I am going to tramp the hills and rest in the forest and swim in the lake, just me and myself; and I'm going to lay me down under a bearded old cedar and let my mind drift off across the lake to the blue haze of the distant hills—'the hills whence cometh my help.' By and by, when I feel the current of power strong within me, when my emptiness has been filled from the limitless reservoirs of the earth, I am coming back. Truly, a man should be about his business."—Angelo Patri (Cosmopolitan).

"Psychiatry, like each of the other branches of medicine, has come to be recognized as one of the subdivisions of the great branch of biology, free to make use of the scientific method, duty bound to diffuse the knowledge that it gains, and privileged to contribute abundantly to the lessening of human suffering and the enhancement of human joys, says Edward A. Strecker in the Atlantic Medical Journal. "General practitioners of medicine and medical specialists, at least the more enlightened to them, welcome the developing science of psychiatry, are eager to hasten its progress, and will gladly share in applying its discoveries to the early diagnosis, the cure and the prevention of disease."

EDITORIALS

ON BEING "OVERDOCTORED"

We are all familiar with the story of how a court jester of the sixteenth century won a goldpiece by proving to the king that there were more "doctors" than there were any other class of people. The jester bandaged his face, put on a look of suffering, and fared forth in the streets. Every person he met had a remedy to propose. At last the jester returned to the king and he, too, offered remedies for his suffering vassal, who thereupon removed his bandages and claimed his goldpiece.

Amateur "doctors" are about as numerous now as they were in those days. Professionals are more numerous than they were then. It is easier to get a license to practice the healing art in California now than it was in the days of the king's jester story. In spite of that fact, only a comparatively small number of persons engaged in diagnosing and treating disease bother to take out a license of any kind. Probably between 30,000 and 40,000 persons are engaged in the practice of medicine in California. With a population of approximately four million, therefore, nearly one in each hundred of population is some sort of a "doctor."

The following estimate of legitimate physicians, "doctors," and "healers" of the state is not claimed to be accurate because accurate figures are impossible to get, but in the aggregate the estimate is conservative:

Physicians, 8000. Osteopaths, 2000. Chiropractors, 6000. Midwives, 2500. Naturopaths, sanipractors, and miscellaneous drugless practitioners, 2000. Christian Science healers, 3000. Preachers and other mental, emotional, and religious healers, 2000. Electronic vibrationers, light manipulators, and others of this group, 500. Psychologists, psychoanalysts, and others in this group, 500. Dietetic and nutrition "doctors," 200. Mail-order "doctors," 500. Counter prescribers and patent medicine venders, 2000. Representatives of various educational, welfare and uplift organizations who are diagnosing and treating disease without adequate education or license, 1000. Miscellaneous special fakirs of one sort or another not included in the above, 500. Medical, health, longevity and similar institutes; stores, shops, organizations or what not that are practicing medicine as organizations and not as individuals, 1000.

These figures do not include the large and useful groups of nurses, public health nurses, medical social workers and other technicians engaged in their useful and legitimate work under supervision of physicians, health officers, hospitals, and other necessary organizations. The list includes only those who are engaged in diagnosing and treating disease. Comparatively few of these people are licensed to do the things they are doing. License is so easy to get in California that most any person with a com-

mon school education and a fad can get one. The requirements for licensure are constantly being made easier, and yet the number of unlicensed "doctors" increase in number and variety.

There is no law in California that requires adequate education for the practice of the healing art. Even the "Medical Practice Act" is a miserable compromise between various types of expediency, and the other laws are even less efficient. They are all ineffective as to punishment for their violation, and they are both ineffective and dangerous when considered from the standpoint of community health.

The fact that our State stamps its approval upon "doctors" so easily and makes such inadequate distinctions between the educated, the uneducated and the fakir is becoming widely known. This local condition has a reputation of being so confusing that hundreds of visitors coming to the state are careful to bring with them a list of educated physicians in various parts of the state. They consider this as much of a necessity as if they were going on a visit to some Oriental country. The office of the physicians' association receives many inquiries of this character from all parts of the world from other physicians, hospitals, business houses, tourist agencies, hotels, banks, and individuals.

HOW MANY MIDWIVES ARE THERE IN CALIFORNIA

Answer: No one knows

Our readers will remember that some months ago wide publicity was given to a statement that there were but an insignificant number of midwives in California. Those familiar with the health situation felt that this statement was very inaccurate. We started out to get the facts. The investigation has not gone far yet, but the results to date are very enlightening.

According to the records of the State Board of Medical Examiners, there are 11 licensed midwives in the city and county of San Francisco. According to the figures of the city and county health officer, there are 105 registered. Doctor Hassler, health officer of the city and county, supplies us with the names and addresses of these 105 people who are registered, and according to the tax-collector's records 18 of them are licensed by that bureau.

If these facts obtain elsewhere in the state—as they probably do—the number of midwives practicing legally and illegally in California is in the thousands rather than hundreds as has been claimed. Some of these, although not holding state licenses, are nevertheless allowed to pay their taxes as midwives to political units to practice obstetrics.

There ought to be closer co-operation between various licensing and tax-collecting departments of our state and local governments, particularly as it applies to the conservation of the public health. Legally, only the Board of Medical Examiners has authority to license midwives, and county and municipal tax-collectors should refuse to collect taxes from people not so licensed. We may confidently expect that the Board of Medical Examiners will check up with the tax assessing and licensing departments of cities and counties and with records in health offices of various political units, and prosecute people who are practicing midwifery without a license from their board as required of them by law.

EXTENSION WORK OF THE CALIFORNIA MEDICAL ASSOCIATION

Under the general title of "Extension Service," the California Medical Association has for many years been developing and expanding a graduate instruction movement among its county societies and members. The secretary of the association has on hand an ever-changing list of speakers and their subjects which she is ready to supply to any county society, or any other worthwhile organization, desiring a speaker for any meeting. Some of the members also have signified their willingness to conduct clinics and render any other graduate service they can to their fellows upon request. The volume of this work has constantly increased, and the movement has spread in one form or another until now it is widely carried forward in a large part of the country.

Doctor Emma W. Pope, secretary of the association, is now preparing a revised list of the Extension Service offered, and all members interested in the subject are requested to communicate with her, giving her one or more titles they are willing to discuss before medical meetings and semi-medical meetings, and at the same time to inform her whether or not they are willing to conduct clinics, and if so upon which particular branch of medicine.

This is one of the most important services that physicians can render to each other. Those who can and are willing to serve should notify the secretary promptly, so that the list may be published and distributed throughout the Western States.

FACTORS INVOLVED IN THE DISTRIBUTION OF MEDICAL KNOWLEDGE

Medical progress moves forward in irregular cycles. Medical literature follows along these same cycles. An outstanding discovery is made and thousands of students take up the subject, elaborate it, modify it, carry it far into fields unthought of by the discoverer. The final findings become incorporated in text-book literature; and medical thought of the pioneering type takes up something else.

In recent years, movements in medical investigation of new subjects and restudy of old subjects have been promoted by other forces: particularly by public interest aroused by the exposition of theories in the public press. If one with a special idea, theory, or fact can arrange for sufficient advance publicity, a new society—often a national one—will be organized by those who know how to capitalize free publicity, and within a short space of time real medical investigators are at work on the problem and medical literature is reflecting the findings.

Just now, we are having a run of much-needed investigation upon the various problems connected

with the circulation. Some new facts are being brought out and restatement of known facts is bringing about a new sense of values about one of the most important subjects in medicine. Much of the recent work has to do with phases of cardiac and general circulatory efficiency, with the forces that tend to sustain and the forces that tend to injure, both in health and in disease.

Few physicians have the time, and they should not be expected to try to keep up with the advances made in a thousand centers and published in hundreds of journals, many of them expensive and very limited in distribution. And yet, new knowledge is of limited value to the great public unless it can be distributed and made useful to the thousands of physicians who advise millions of people.

It is precisely at this point that general medical journalism does not take full advantage of its opportunities in our opinion. And it's not taking advantage of its opportunities explains in no small degree why visitors to physicians' offices see so many unopened journals stacked up in some corner. We believe it to be a duty, as well as a privilege, of a magazine like CALIFORNIA AND WESTERN MEDICINE, for example, to present careful digests prepared by recognized teachers and students of special subjects to its readers at more or less frequent intervals.

After all, more than 90 per cent of the physicians of California, or any other state, are primarily concerned, and rightly so, with what we may term the retailing of medicine to the public. No retailer can take the time to go to hundreds of factories and become familiar with all the details of production. He looks to his distributors for accurate information, which he passes on to the consumer. Retailers of medical advice and assistance have a right to look to their publications and organizations for collection and distribution of medical information. Distributing agencies must search the medical schools, laboratories, hospitals and other production centers, and other magazines, reports and what not, and buy wholesale through teachers, investigators, and special writers.

The practical difficulties in welding such an effective chain together is its second link—the teachers and recognized leaders and writers in their special fields. As the physician is too much occupied with his problems and with his patients to dig through tons of literature for the rare kernal, so the research workers, teachers, leaders, and writers are too busy to take time to occasionally assemble and correlate the newer knowledge and particularly the newer arrangement of values as they effect improvement in health, and as they are applicable in limiting disease and treating the sick.

Every issue of CALIFORNIA AND WESTERN MEDICINE should carry one of these special review articles on some appropriate phase of medicine. They should be prepared by men in our own territory.

Will you, medical teacher, research worker, specialist (whether in public or private health practice), medical economist, and family physician help us do this?

WASTING DISEASES OF INFANCY AND EARLY CHILDHOOD

The conclusions now crystallizing in the minds of many citizens as to the simplicity of the problem of so-called nutritional disturbances of infancy and early childhood are based upon widespread teachings of the causes and remedies secured from "literature" thinly veneered with pseudo medical science. Serious medical students of this great problem of metabolic or nutritional disturbances still regard it as one of the most complex and difficult in all the broad field of health. It is only partially solved as to the various groups of causes, and there is no general agreement beyond those of general principles as to treatment.

It is known that the causes which manifest themselves in some form of nutritional disturbance are of several varieties and that safe, sound care, including diet, can only be wisely directed by a competent physician after careful and frequently repeated personal study of the individual child. Our foremost students agree only upon the magnitude and complexity of the problem.

Witness the diverging opinions and conclusions we have heard or read during the last few months between two such great leaders of medical thought as Finkelstein of Germany and Leonard Parsons of Great Britain. Professor Finkelstein was recently in California and gave a series of medical lectures and clinics. About the same time Leonard Parsons was delivering the Goulstonian Lectures in London. These two authorities differ quite materially upon fundamental questions of cause and treatment. Others of almost equal prominence in our country and elsewhere do not fully agree with either Finkelstein or Parsons, nor with each other.

And yet, curiously enough, if several of these outstanding authorities were each to study and prescribe for the "malnutrition" of an individual child, they would differ but little in their methods or in the results obtained. This is the consoling feature of medical progress.

SPECIAL ARTICLES

The article by Doctor Albion W. Hewlett on "Auricular Fibrillation" (page 479) is the first of a series of special articles which will be prepared by invitation and published in CALIFORNIA AND WESTERN MEDICINE.

Medical progress is being made so rapidly in so many phases of the broad and ever-widening field of medicine; and the records of acquisition of new knowledge sufficiently tested to warrant its acceptance and application in the limitation and treatment of disease are so buried under much chaff in hundreds of publications that no physician who expects to do anything else can possibly find the kernels he is always looking for. It is in the hope of relieving this situation somewhat that CALIFORNIA AND WESTERN MEDICINE has inaugurated this series of summary and critical review articles. If they should render no greater service, they will at least point the way to discriminating reading, and for that reason each of these articles—contrary to our

custom—will be accompanied by a more or less complete reference reading list.

But these articles should, and no doubt will, accomplish much more than this. Surely they will if our readers will help with suggestions both as to subjects and authors. Readers will assist the cause of better health for everyone everywhere all the time, and assist CALIFORNIA AND WESTERN MEDICINE in serving that cause, by sending suggestions and comment to the editor. Physicians in general practice away from the great teaching centers are particularly invited to send suggestions regarding subjects or authors, or both, to the editor.

ABSORPTION OF LOCAL ANESTHETICS FROM THE BLADDER

The mucosa of the bladder is generally regarded as a relatively poor absorbing surface for all kinds of agents, including local anesthetics. The local anesthetics, however, act sufficiently to abolish pain in this region, and this is practically tantamount to saying that absorption occurs. Moreover, the not infrequent occurrence of systemic reactions or disturbances from the employment of local anesthesia in the bladder confirms the assumption of absorption. The possible occurrence of toxic reactions is of much concern to the physician. The employment of such an agent as epinephrine, together with cocaine, to prevent or retard the absorption of the anesthetic does not always mitigate the toxicity arising from local anesthesia. On the contrary, the systemic reactions under these conditions may even be augmented, especially if the epinephrine is reinjected into the tissues, or injected systemically for resuscitation. This is due to the well-known sensitizing action of cocaine (even in small and relatively ineffective doses) to epinephrine. Hence, it is of the greatest importance to bear in mind the important function of absorption, which in the bladder is probably subject to a greater number of influences, such as chemical reaction, variable composition of urine, etc., than in other regions of the body.

The results of studies on bladder absorption of local anesthetics in different animals are variable, if not contradictory. The variability of the results reported may be attributed to the employment of different species and methods, and criteria of absorption by the investigators. In his studies on dogs, Macht of the Johns Hopkins Medical School, who reported on this subject a few years ago, used changes in blood pressure and respiration as the criteria of absorption. Macht concluded that cocaine and alypin were not demonstrably absorbed from the bladder. However, the very recent and extensive studies of Saito from the Pharmacological Institute in Koenigsberg indicate that there is considerable bladder absorption of all local anesthetics and some other agents.

Saito employed rabbits and the chemical analytical methods of the German Pharmacopoeia for quantitative estimation of the anesthetics. This direct method appears to be better suited for settling the question of absorption than the indirect method of Macht. Saito used more than ordinary precautions in the conduct of his experiments. Before the anesthetic was placed in the bladder both ureters were ligated close to the bladder, and the penis was also tied off. Next, the bladder was opened by an incision and washed with isotonic sugar solution through a catheter. Then a definite quantity of the anesthetic was introduced; the wound was closed, and the animal kept warm during the experiment. At the end of definite time intervals, the unabsorbed solution in the bladder was carefully removed and the quantity of the anesthetic left behind determined. Under these conditions, Saito found that 60 per cent of alypin and 45 per cent of cocaine were absorbed in three hours. Only 15 per cent of novocaine (procaine) was absorbed during the same period, this anesthetic being more slowly absorbed and not destroyed or diffused. The concentrations of the anesthetics used were 1 and 2 per cent, and absorption was roughly proportional to the concentration. Weak alkalinization (pH = 8.0) of the solutions considerably increased the absorption, and this agreed with the well-known improvement in anesthetic efficiency of cocaine when mixed with bicarbonate. That is, in the presence of alkali the alkaloid base is liberated and better absorbed by the mucosa. Strychnine was found by Saito to be absorbed rather slowly, only 36 per cent being removed in three hours. The absorption of sodium chloride solution in concentrations less than 1 per cent was better than with higher concentrations. Saito also observed that the introduction of salt solution, together with the anesthetic, into the bladder did not alter the quantitative absorption of the salt or of the anesthetic.

The results of Saito on rabbits leave no doubt that the absorption of local anesthetics from the bladder occurs. To what extent the results are transferable to man cannot be said. However, they suggest the possible existence of a similar function in the human bladder, and, at least, indicate the desirability of securing further information regarding the behavior of this important organ toward an active and widely used group of drugs. In any case, caution and care should be exercised in the use of local anesthetics in the genito-urinary tract, for the neighboring regions, namely, the ureters, urethra and prepuce, are even better absorbing surfaces than the bladder.

Macht, D. I.: Journ. Pharm. Exp. Therap., 1921, 16:435, "On the Absorption of Local Anesthetics through the Genito-Urinary Organs."

Saito, Y.: Arch. exp. Path. Pharm., 1924, 102:367, "Die Resorption örtlich betäubender Mittel von der Schleimhaut der Harnblase."

DOCTORS GIVE EVIDENCE

Of all the damaging influences operating against physicians there is none more serious than that brought about through so-called medical testimony. At the present time the whole profession is being criticized again, and individuals are being designated as shyster doctors in editorials from one end of our country to another—and to a degree, justly so. As one editor puts it, *"when doctors, who above all people should be human, honest and judicial in weighing evidence, in culling the false from the true, and in arriving at just and fair decisions, become biased advocates and even dishonest advocates of any cause or any person, for money, they ought to have*

their licenses to practice medicine taken away from them and be discredited in their own organizations."

There is, of course, no answer to criticism of this kind. It is true—at least too much of it is true. It is becoming common for criminals to engage a doctor to assist their attorneys in twisting evidence in their favor. Plaintiffs and the state are being required more and more to apply similar methods. It is said that it is as easy to find these medical advocates as it is to find a lawyer whose business it is to use every quirk consistent with legal ethics to either clear his client or find him guilty, as the case may be. It is a common thing to have in our own courts from one to three or four supposedly honest ethical physicians paid by one interest, and another group paid by an opposing interest, fighting as bitterly to confuse the truth as some of the lawyers who are on the two sides of the question.

Look, for example, at the disgraceful spectacle which recently went on in the courts of Chicago. On account of the prominence of the young murderers and the particular heinousness of their crime, all people everywhere followed the course of the evidence fully.

Again, we found many of our widely known specialists psychoanalyzing, twisting, turning, and doing everything they could to defeat the cause of justice, and their evidence having to be rebutted by other groups who were, at least in this instance, fighting for the truth.

Of course, as physicians we know that the picture is not so dark as it appears to be on the surface. Nevertheless, it is dark enough in all conscience. We know that many of these alleged expert "doctors" are "criminologists," "psychologists," "psycho-pathologists," "professors of bean growing," or something else, who are being quoted as legitimate educated physicians. They are not.

Similar situations are frequent in courts elsewhere. Attempts have been made from time to time, including the last annual meeting, to get a rule of ethics covering the point by the house of delegates of the A. M. A. One prominent attorney has been quoted as saying that much of his success in getting criminals acquitted was due to his wisdom in picking the right sort of doctors to testify for him, and that they were the cheapest people in the market to buy.

Doctors often are useful in court procedures. Their expert knowledge should be utilized perhaps more often than it is. It is a fact also that conditions often arise where there may be honest differences of opinion among physicians as to pertinent facts These things are expected and provided for, but many of their disagreements when assisting attorneys on two sides of a trial cannot be explained along these lines.

DIRECTORY OF THE CALIFORNIA MEDICAL ASSOCIATION

The directory of the members of the California Medical Association,-as authorized by the House of Delegates of the C. M. A. at its last annual meeting, is now being published. The executive committee have authorized the free distribution of one copy of this directory to each member of the association. Additional copies may be had by payment of a fee to be decided upon, from Doctor Emma W. Pope, secretary of the California Medical Association, 1016 Balboa Building, San Francisco. The executive committee in authorizing this publication included in their resolution a statement that *"unofficial medical directories are not sanctioned by the California Medical Association."*

This official directory will have considerable value if distributed *only* to members of the organization. It would be unfortunate, however, if advantage is not taken of distributing this directory in various public places throughout the state, so that it may be available to all people who are looking for a list of reputable ethical physicians of the state. It would also be a splendid thing if each county medical association, particularly those containing twenty or more members, would have at least that part of the directory referring to their county reprinted and see that these reprints are given public distribution through local news distributing agencies, as well as leaving copies of the reprint on tables in their waiting rooms. One of the chief reasons why more of the practice of medicine—particularly for the transient population in a great health center like California—is not in the hands of educated ethical physicians is, chiefly, because lists giving the names and addresses of these physicians are not available. The C. M. A. has taken a fine stand in authorizing the publication of this directory. Its officers and members ought to increase the value of the directory by making it as nearly universally available as is possible.

It is hoped in subsequent annual editions that this directory may be expanded to include mention of the specialty, if any, that each physician is engaged in; also that it may include all accredited hospitals of the state, as well as all other scientific agencies of medicine, wherever they may be located. What a fine thing it would be if any person—stranger or otherwise—in this state could pick up an authoritative directory and find a list of the physicians, hospitals, laboratories, x-ray plants, and other information that the public is interested in!

HOSPITAL CONFERENCE AT LONG BEACH

The Fourth Annual Conference of the Hospitals of California will be held at the Virginia Hotel, Long Beach, Thursday, Friday and Saturday, November 6, 7, 8, 1924. The Council of the California Medical Association will meet at the same place on Saturday, November 8. There are also Southern California medical associations meetings close enough to the same dates to make a continuous visit of a week or more to the southern part of the state profitable and enjoyable.

The Hospital Conference will have before it a number of questions of the most vital concern to every hospital, clinic, laboratory, physician, nurse and other person concerned with the cause of better medicine. Some of the most important of these questions will not be published in the program. Every hospital, clinic, group, x-ray or other laboratory, and other accredited medical organization is invited to send representatives. As large an attendance of representative people as possible should compose this conference, and it may be confidently predicted that all who go will find benefits that will compensate them many times over for the expense incident to the trip.

The program promises to be unusual in several important particulars. One of the outstanding fea-

tures that will be discussed is the alleged excessive cost of hospital service as compared with other humanitarian services. The committee appointed to investigate this problem at the last conference will make its report. Distinguished hospital and medical economics students from other points will be present to take part in the discussions.

Doctor F. L. Rogers of Long Beach, chairman of the local committee of arrangements, reports enthusiastic co-operation of all business, social and medical organizations of the city in an effort to make this the most valuable of all the conferences thus far held. Long Beach at this time of year is a delightful place and the Hotel Virginia as headquarters, as well as other hotels of the city, are prepared to supply accommodations at reasonable rates. Why not write direct to the hotel or to Doctor Rogers, as chairman of the local committee of arrangements, and make your plans to attend this conference?

MEDICAL CARE FOR INDIGENTS

In an editorial note the Ohio State Medical Journal says:

"The 'district physician plan' for caring for the indigent sick in Columbus has been changed by the Board of Health, upon the recommendation of Dr. James A. Berr, city health officer.

"Under the old plan, district physicians were appointed at a stipulated monthly wage to care for the indigent sick within the prescribed areas. Under the new plan, all indigent patients able to visit a physician's office will be required to go to one of the Ohio State University dispensaries. Those confined at home with sickness will be investigated by a representative of the department. If the services of a physician are needed, the family physician will be summoned and paid by the board of health at the rate of $3 per visit by the city."

The obsolete "district physician plan" of board of health or the "neighborhood physician plan" of education boards—the chief difference being in different control—has long since been given up in progressive communities. It is only now being promoted in certain centers in California.

It is interesting to see Columbus, Ohio, abandon it because of the underlying principle that always made it unpopular. This being that people, including poor people, resent, as they should, being dictated to as to whom they will have to care for them when they are sick.

Of course, Columbus jumped from the frying pan into the fire when they limited allowable service for the ambulatory sick poor to one clinic. Another shift will be in order in due time, basing this prediction upon the adage that nothing is settled until it is settled right. Right means the right of choice by the patient, rich or poor, within reasonable limits, of who shall care for him when he is ill or thinks he is.

The Columbus health officer recognizes this principle in establishing the highly commendable plan of allowing those confined at home with sickness and who need a physician's services, to summon their family doctor, whose fee is paid by the health board.

This most effective, least objectionable and least criticized method of furnishing medical care to the indigent is the custom in several California communities.

Medicine in the Public Press

Ten Thousand Healers Boasted by California!!—The press of the West Coast recently emphasized, as well they might, a statement to the effect that California had 10,000 licensed healers of one sort or another. These figures do not include faith healers, many of the specialists on the care of various organs and appendages of the body, and the many wholly ignorant or only technically trained people who are practicing the healing art.

New York's Unhygienic Bakeries—According to extensive newspaper publicity, New York City still has 3077 bakeries located in cellars and, therefore, unhygienic. This in violation of the law passed in 1913. Many of these bakeries are habitations for insects and rodents, say the headlines.

The interesting point to Western health officers and other physicians is, that nearly all the "surveyors" who come out to tell us how to conduct our health affairs live within a few blocks of where this sort of situation exists.

Sixteeen Rules of Health—Page advertisements of the New York Life Extension Institute in metropolitan newspapers recently gave what they consider the sixteen most important rules of health. These are:

1. Ventilate every room you occupy.
2. Wear light, loose, and porous clothes.
3. Seek out-of-door occupations and recreations.
4. Sleep out, if you can.
5. Breathe deeply.
6. Avoid overeating and overweight.
7. Avoid excess of eggs, meat, flesh food, salt, and highly seasoned food.
8. Eat some hard, some bulky, some raw foods.
9. Eat slowly.
10. Use sufficient water internally and externally.
11. Evacuate thoroughly, regularly, and frequently.
12. Stand, sit, and walk erect.
13. Do not allow poisons and infections to enter the body.
14. Keep the teeth, gums, and tongue clean.
15. Work, play, rest, and sleep in moderation.
16. Keep serene.

We believe that many of the most important rules of health are not touched in this group, and we believe this list can be improved upon. We, therefore, invite similar lists of anywhere from five to twenty rules of health, which we will publish over the signatures of members or organizations who may care to take the trouble to send them in.

What Kind of Milk Are You Drinking?—The press of Santa Cruz County has recently given considerable space to a discussion of whether or not milk cows should be inspected and the quality of the milk regulated by well-enforced county ordinances. One of the discussants said it was an impracticable procedure under state, county, and municipal laws and regulations. The state inspectors do periodically examine the milk cattle of, at least, the larger dairies. If they order a tubercular cow killed or disposed of, it is eitirely possible for the owner to sell this cow to some private family who may keep on using the milk.

Many interesting features were brought out that are rather staggering to people who believe that all California milk is safe to drink.

Fat So Thoroughly Removed That It Can Never Get Back—Several members have forwarded us copies of an advertisement in the public press where a licensed doctor in this state claims that under Doctor Blank's method of treatment not only is excess fat removed, but under her system "such condition of

obesity will never again return." Those who belong to the class so accurately defined by Barnum of circus fame are invited to attend.

Goose Grease for Happiness—Under this title George Ade (Cosmopolitan) writes:

"Any young interne in a loud-smelling hospital will tell you that the all-wise 'Doc' of our boyhood days was an animated reservoir of ignorance. Likewise, the trained nurse with the hazel eyes will assure you that the old ladies who used to group themselves around every sickbed were merely advance agents for the village undertaker.

"They tell us that all of the pallid heroines of history were not broken-hearted, as reported. You can't break a heart. It is a combination of outer casing and rawhide. All of the anemic maidens we have read about were suffering from a lack of vitamins. The balanced ration may take most of the romance out of the world. It is almost impossible to be in love and feel well at the same time.

"A venerable lady who smoked a pipe told me, many years ago, that white walnut bark should be peeled from the tree in the dark of the moon. If peeled upward, it was a purge. If peeled downward, it was an emetic. She spoke with much conviction.

"The pin-feathered medical student will say that the old lady was daft. How does he know? Has he ever tried out white walnut bark in a large number of cases, working in the dark of the moon, peeling first upward and then vice versa? He won't even admit that sassafras tea, taken in the spring, thins the blood which has become all thickened up with sausage and buckwheat cakes during a long winter. This, in spite of the fact that millions of people have actually diluted themselves with sassafras, and are ready to make affidavits.

"Out in the brush there is still an occasional old-fashioned mother who keeps the baby lubricated and calmed down by permitting it to work on a strip of bacon rind. This is contrary to all rules. The babyologists say that a young and toothless child requires orange juice. Yet thousands of bacon-rind babies have grown up to be Congressmen, chiropractors, county agents, actresses and officers in the Federation of Women's Clubs.

"Let Dr. Billings and the Harvard savants say what they will, when the children out our way begin to act squirmy, we will give them pumpkin-seed tea."

Narcotic Education Association Drastically Criticizes the A. M. A.—In a mimeographed document called "The Report of the President of the Board of Directors of the International Narcotic Education Association at the Meeting Held at the Biltmore Hotel, Los Angeles, July 31, 1924," signed by Richard P. Hobson, president—after outling some of the activities of that organization—there appears the following:

"While the members of the Narcotic Control Board, created by the Jones-Miller Act, namely, the Secretary of State, Secretary of the Treasury, and Secretary of Commerce, are deeply in sympathy with the association and its work, the President regrets to report that so-called experts on this board are actively opposed to all for which the association stands. This opposition was felt in our efforts before both committees in Congress, before the convention of the American Medical Association, before the committees on resolutions of both national conventions. This opposition not only apologizes for the drug addict and opposes interfering with the addict getting his drug, but belittles the menace itself, combats publicity, and fights the education treatment.

"There are indications that this sinister opposition, headed up in the government itself, is active from several important centers, attempting to discredit the work of the association and to allay the alarm which the association is systematically arousing in the public mind.

"It was inevitable that the association should draw the fire of this large enemy of society, but it is startling to find its intrenchments located where they are."

Deaths by Suicide—According to an article by Doctor Frederick L. Hoffman, that has been extensively commented upon in the public press, the general suicide rate for the country is "normal," but this investigator is concerned at the remarkable increase of suicide among the well-to-do and the highly educated. The highest suicide rate in the United States, according to the author, is San Diego, where there was the extraordinary rate of 50.5 per 100,000 population during the year 1923. Of the thirteen cities in the country with unusually high suicide rates, eight are located in Western America. No explanation is offered for this very great tendency toward suicide among the citizens of Western America.

An even more startling conclusion, taken from the statistics of Save-a-Life League, is the unquestionable increase in morbidity among children. Upon this point, the author says:

"Unquestionably, the number of morbid children is increasing. Our processes of education, our changed condition of home life, our confused environment, all tend to a high rate of self-destruction, but in the registration states of the United States, including about 80 per cent of our population, and for the three years—1920, 1921, and 1922—there occurred one death from suicide among children, ages 5 to 9; 121 deaths from suicide at ages 10 to 14, and 962 deaths from suicide at ages 15 to 19."

One conclusion definitely may be deduced from these statistics (assuming, of course, their accuracy), and that is, that the old idea that suicide was associated with lowering skies and depressing humid atmosphere will have to be discarded.

High Class Advertising—A casual examination of the various magazines, newspapers and other advertising agencies will suggest to the mind of most thinking, intelligent persons that the advertisements dealing with toilet articles, perfumes, powders, etc., and other near-medical products are rapidly overshadowing the field formerly held by fake patent medicines. No further have the remarkable claims gone than in the field of dentrifices. It is pleasing to note the unusually high note struck by Colgate & Company in advertising their Ribbon Dental Cream. Physicians wonder why more people don't find it advantageous to use this type of advertising. No, California and Western Medicine does not carry Colgate's advertisement. We only wish we did.

Christian Scientists Renew Again Their Attacks Upon Vaccination—In one of the recent publications of the Monitor, under the headline "Smallpox Scares Played Out," much is made of an article by a "doctor" who is quoted as saying that:

"The creation of smallpox scares for the purpose of stimulating business for vaccinators and vaccine manufacturers is becoming pretty well played out. Evidently, the Department of Health recognizes that fact and, according to reports in the newspapers, will substitute mumps and pneumonia.

"These periodic smallpox scares come to life about vacation time, and are used as a lever to vaccinate school children at a time when they should be left free to enjoy their holidays. The extensive propagation and coercive infliction of a dangerous disease, under the false pretense that it is necessary for public good and is safe and harmless, is obviously in the nature of a gross medical malpractice which is against public policy and public health."

Practicing Medicine by Mail—Many of the popular magazines are practicing medicine by mail. They do not place their advertising in the paid for space, but set it up attractively on reading pages. Prob-

ably more than a million people, for example, read this: "If yours is the difficult problem of feeding a delicate child, an invalid, or a grown-up person whose appetite has failed, write the —— magazine's Home-Making Department and our nutrition experts will help you. Tell us the circumstances of the case, enclosing a stamped envelope for our reply. Address The ——, New York."

Birth Control League Would Make Everyone Her Own Doctor—According to press dispatches, another traveling agent of the Birth Control League has made a trip from New York to California in order to induce our benighted citizens to modify the laws of California with reference to birth control. This person is quoted as objecting strenuously to the fact that only physicians can now under California law restrict births; and they can do it only for very good and sufficient reasons. This person wants the information broadcasted so that apparently everybody will know how to control birth by preventive or terminative measures.

It is understood that attempts will be made in the coming legislature to make such information so public that everyone can be her own doctor—can go to a drug store and buy contraceptive and abortive methods.

We do not know why this league picked on California. The census bureau has recently told us that our percentage of births among the adult female population is lower than in any other state in the Union.

Every physician and every drug store knows that contra-ceptive and abortive information is already widely available. The trouble is that it still takes skill and technique, which the average person neither has nor can comprehend. A law won't give it to them.

Are There Any Fat Women?—"She may confess to being plump, but that is the limit of her admissions," says the San Francisco Chronicle, editorially. "If there are any fat women in the world we have no admission of it. Women may confess to plumpness, but as to being fat—never! So when Dr. A. H. Waterman of Chicago warned that 'American women are becoming fair, fat and flabby, and inclined to become narcotic addicts from taking obesity cures,' it did not mean anything to them.

"The road to the perfect form is not paved with obesity pills. Good healthy exercise, plenty of fresh air, and wholesome food in reasonable portions are the enemies of plumpness. They may not be so easy to take as a few pills or a spoonful of cure, but they produce the results, and that is what is most important to those who fear to look scales in the face."

Birth Control—Newspapers gave considerable prominence to the sayings and doings of a recent visiting birth control league official. It is said that she "presented some startling facts. They have stimulated diversified reactions among our progressive women and medical men. The most salient reaction is opposition, based upon the belief that the league's purpose, if accepted in its entirety, will lower the moral standards of our race."

This agent is credited with the amazing statement that "woman has learned that ignorance is her greatest handicap in her fight for sex equality. And birth control is the first important step she must take toward becoming man's equal, for **woman may never call herself free until she is mistress of her own body.**"

Again she is quoted as saying that "children should be conceived in love and only begotten under conditions which will render possible the heritage of health. No parent has a right to bring a child into the world unless he is equipped to make of that child a creditable citizen."

She attempted to create a sentiment that would **"forbid the imparting of birth-control information by physicians."**

No answer has been given as to whom she would entrust with this great responsibility. She apparently did not know, or if she did, failed to inform her audiences that anyone who can read can get all the information there is in illustrated books.

In commenting upon the question, Doctor Hassler expressed the sentiments of most physicians when he said: "I am thoroughly in favor of the organization of a medical commission which may pass upon and carry out sterilization of persons who are subnormal, insane, or constitutionally diseased. For by this means alone shall we be enabled to prevent the birth of babies who, because of inherited defects, may become public charges."

"But," he said, "I am not in favor of a law which would empower physicians to impart information regarding the prevention of conception, because such knowledge might be passed on without discretion and thus endanger our entire moral structure."

All knowledge of contra-ceptive and even abortive methods are well told and profusely illustrated in books and other literature, so frank and dangerous to society that one wonders how it gets distributed. A small book this editor found on his desk recently is a particularly dangerous but remarkably accurate description (well illustrated) of how to prevent, and terminate, pregnancy. Also how to avoid and treat venereal diseases. It is in popular language. If this book secures wide distribution, much harm will result.

Heredity and Environment—Professor H. S. Jennings (The Scientific Monthly) says among other interesting things that the "knowledge of heredity has changed fundamentally, and in consequence the relations of environment to heredity have come into a new light.

"Under the same conditions objects of different material behave diversely; under diverse conditions objects of the same material behave diversely. Anything whatever that happens in any object has to be accounted for by taking into consideration both these things. Neither the material constitution alone, nor the conditions alone, will account for any event whatever; it is always the combination that has to be considered.

"Organisms are like other objects in this respect; what they do or become depends both on what they are made of, and on the conditions surrounding them. Always both have to be taken into account.

"The substances passed from parent to offspring, giving rise to the phenomena of inheritance, are a great number of discrete packets of diverse chemicals, imbedded in a less diversified mass of material. The masses formed by the grouping of these packets are visible under the microscope as the chromosomes. The number of different kinds of packets that go into the beginning of any individual is very great, running into the hundreds or thousands.

"Development we know consists in the orderly interaction of these substances—with each other, with the rest of the cell body; and with the oxygen, food and other chemicals brought into the cell from outside; all under the influence of the physical agents of the environment. **The final result—what the individual becomes—is dependent upon all these things; a change in any of them may change the result.**

"Any correct notion of the relation of environment to heredity depends on proper knowledge of how these packets of chemicals operate in producing the developed organism. This knowledge is obtained in two ways: by direct study under the microscope, and by interchanging the different packets of chemicals and noting the consequences.

"If there is clarity as to what comparison is made, there need be no ambiguity as to what is due to heredity, what to environment.

"Are the differences between men due more to heredity or to environment? If we compare our-

selves with our ancestors of 10,000 years ago, they are due mainly to environment—if it is correct, as generally admitted, that the fundamental constitution of the stock has not appreciably changed since that time. If the comparison is of ourselves with the Bushmen of South Africa, possibly the differences are mainly due to heredity. If the comparison is between the diverse races of Europe, or between the individual citizens of the United States, the answer is to be obtained only from a much greater amount of precise study, with critical statistical treatment, than has yet been made; and there is reason to think that it would signify little when reached, since it would be merely an average of a very great number of individual comparisons, many falling to one alternative, many to the other. Certainly, the answer is not to be deduced from any alleged biological principle that the characteristics of organisms are due to heredity and not to environment."

Thousand Delegates Expected to Attend Hospital Gathering—"That 1000 delegates will attend the annual convention of the Hospital Association of California in Long Beach, November 6, 7, and 8, was predicted today by Dr. F. L. Rogers," says the Long Beach Press. "Convention headquarters will be at Hotel Virginia. Details of the program are now being arranged. The association is open to all reputable hospitals in the state, whether or not they have been 'accredited' by reason of the extent of their equipment and service. William E. Musgrave and Celestine J. Sullivan, president and secretary, respectively, of the state association, reside in San Francisco, where the organization's headquarters are located.

"The convention is coming to Long Beach as a result of a suggestion made by Dr. Rogers to officials of the association during a meeting of the California Medical Association in Los Angeles last May and invitations subsequently extended by the City Council and the Chamber of Commerce."

The Doctor on the Stage—Marian P. Whitney (North American Review) emphasizes the increasing interest being manifested in the physician and his work as embodied in the drama:

"In their search after new dramatic values, many of our playwrights have turned from their long preoccupation with love, youthful or illicit, with sex in all its aspects, and have asked themselves what other motives and emotions deeply influence our lives. And they have discovered that for the average man the profession or business which he chooses becomes the dominating factor of his life, and so in reality his 'fate.' . . .

"The contemporary drama accords to the man of science and to the scholar a place which he has never before occupied, giving to him his problems, struggles, and ambitions, the center of the stage, which no other age has granted him. It is natural enough that a great number of such plays should be concerned with the man whose science brings him into the closest contact with life, that is, the physician. . . .

"Many plays (several of which are reviewed by the author) show us the physician's life, his professional success, as determined, not alone by his relations to his own patients, but to the community for whose health he is ultimately responsible, or to external forces and interests with which his work brings him into conflict. . . .

"The modern world is interested in the man of science and the scholar," concludes the author. "It is ready to enter into his joys and sorrows, his aspirations and ambitions, it respects and honors his calling and appreciates his value to the community."

Is Intelligence the Be-all and End-all?—Mr. Lewis Worthington Smith, in discussing this question in Mr. Ford's Dearborn Independent, believes that "there is a growing superstition to the effect that intelligence is the be-all and end-all of man. Our psychologists have devised tests of mental capabilities by which our children may be assigned to their several levels. . . .

"It is not going far out of the way to say that man is chiefly brains and fingers. He thinks things and his fingers turn his thoughts into act and fact. Curiously enough, the card-indexing of humanity is not dealing with us as brains and fingers. . . .

"As human beings we differ both quantitatively and qualitatively. Measurements of intelligence reveal in the gross only our **quantitative** differences. Such differences are those only that distinguish us in degree from our fellows, not in kind. They rate us in grades as the miller rates wheat. They do not separate us one group from another as the same miller separates corn and rye. No degree of excellence can change the corn to rye nor persuade the miller that it should be ground up for rye. They are eternally different things. They must grow and flourish in different ways. Woe be to the husbandman forever who scatters his corn broadcast as he scatters rye or who tries to cultivate rye in hills. . . .

"We live in a man-made world. It was and is not not so with the savage. He takes the world that nature gives him. Through untold thousands of years we have been transforming the crude material of existence with which our early human ancestors made themselves more or less content. There are those who feel that it is the part of wisdom to accept any contribution to our common life that anyone may make. The idea is alluring, but it is less sensible than would be the suggestion to a cook getting an apple pie ready for the oven that, since grapes are a desirable fruit, as are also peaches and gooseberries, she adds indiscriminately to the filling such portions of each as she may have at hand. The making of a world in which to live, a world offering possibilities of happiness suited to our individual needs, is a matter somewhat more serious than the making of any kind of pie whatever. **It is no more advisable to bake pie in adaptation to the tastes of those who are to eat it than it is to shape a social order in agreement with the tastes of those who have made the world where it exists their home.** . . .

"As Christopher Pearse Cranch put the matter:

'Thought is deeper than all speech,
Feeling deeper than all thought;
Souls to souls can never teach
What unto themselves was taught.'"

The Renewal of Youth and After—Under this title, The Forum publishes a second article by L. Adams Beck about the new youth. These quotations will help you decide whether or not you wish to read these new health educational documents. Many of your patients are reading them.

The possibilities held out by Dr. Voronoff are so dazzling, the road of attainment so simple, that it may well appear necessary that the world should hoard its race of chimpanzees as something more to be desired than much fine gold. **No wonder that Dr. Voronoff's rooms exult in "old masters, wonderful rugs, and exquisite furniture." No wonder that the aged voluptuaries of the world see the day-star of hope dawning in midnight skies. What a world might this be, could the period of its pleasures be doubled, if not prolonged indefinitely!**

The operation of Voronoff will, according to his statements, convey character. It will restore force and energy, but what force? That of the ape? A pretty possibility, truly! If with physical energy are grafted also lust and cunning, released from human self-control, the worst nightmares of modern literature may be realized and a race produced, semi-immortal and lower in instinct and passion than the Neanderthal man, who had at all events climbed above the common progenitor of ape and man. Man has struggled up through many and terrible obstacles. We may yet witness a self-chosen descent.

California Medical Association

GRANVILLE MacGOWAN, M. D., Los Angeles..President
EDWARD N. EWER, M. D., Oakland.....President-elect
EMMA W. POPE, M. D., San Francisco.....Secretary

Council of California Medical Association — The autumn meeting of the Council of the California Medical Association will be held at Long Beach on November 8, 1924, at the Hotel Virginia. This hotel is also headquarters of the Hospital Conference, to be held November 6, 7, and 8. A special rate of $8 a day, American plan, has been arranged for the Hospital Conference. Make your reservations direct with the hotel as early as possible.

Any member of the organization who has any matter that he wishes considered by the council at this meeting is invited to make his plans to be present or to submit his proposition in writing in advance of this date.

ALAMEDA COUNTY

Alameda County Medical Association (reported by Pauline S. Nusbaumer, secretary)—The September meeting of the Alameda County Medical Association was devoted to Pediatrics, and the association is indebted to C. D. Sweet for the following program: "Sarcoma of the Chest in an Infant," (a) clinical report by Clifford Sweet, (b) radiographic and treatment report by William Sargent and R. G. Van Nuys; "The Nervous Child," by Langley Porter; and "Diphtheria," by E. C. Fleischner. All who failed to attend this meeting missed a treat. Langley Porter and E. C. Fleischner came by invitation, and gave the best out of their large experience. The meeting was well attended, and after adjournment a full hour was spent around the refreshment table, devoted to sociability and a continued informal discussion of the scientific program of the evening.

At the regular meeting of the staff of Fabiola Hospital, held August 26, the following subjects were discussed: "Case of Hemorrhage into Kidney and Pleura," by Guy Liliencrantz. "Infantile Uterus With Multiple Fibroids," by E. G. Simon. "Unusual Case of Bone in Cervix," "Healed Electrical Burn," by Ergo Majors. "Demonstration of New Obstetrical Forceps," by E. N. Ewer. "The Post-encephalitic Syndrome," by C. W. Mack.

The staff dinner given as a welcome to the incoming internes of the Alameda County Hospital was a delightful function. Q. O. Gilbert presided as toastmaster. He called upon each incoming interne to introduce himself and give his credentials, which was done in a most happy manner. W. H. Strietmann spoke on the "Interne Year," bringing out the fact that the interne fresh from college could give to the members of the staff many of the newer and later things in medicine, as well as that the members of the staff could give them of their experience; in fact, that each could learn from the other. He urged internes to be kindly and courteous in the treatment of the patients in this institution, to talk to them and treat them as they would were they private patients; to be ever careful of their speech, especially avoiding criticism of their colleagues; to conduct themselves so as to inspire their patients with confidence, not only in themselves, but in medicine as well."

Fletcher Taylor spoke on the "Give and Take of the Interne" most entertainingly, relating anecdotes, which were highly appreciated.

R. S. Smylie's subject was "The Call of the Doctor," which he presented in a masterly fashion.

A. M. Meads took for his subject "Urology as an Indoor Sport." While the doctor presented his subject in a humorous manner, he thoroughly impressed his hearers with its place and importance in medicine.

Doctor Aurelia Rhinehardt, member of the Institutions Commission, when called upon responded in her usual happy vein, saying she did not realize that the doctors could get so much fun out of so serious a subject as medicine. She envied them for the good they do for humanity.

R. T. Legge took his audience with him on his recent trip abroad, introducing them to the men he met, and telling them of the things that were medically interesting.

Mr. J. H. King spoke for the Institutions Commission, briefly stating what the commission had done and what they hoped to do.

The Merritt Hospital staff on Monday, September 1, considered "Occupational Dermatosis," by Harry E. Alderson, and "Renal and Ureteral Calculi," by Spence DePuy.

FRESNO COUNTY

Fresno County Medical Society (reported by T. Floyd Bell, secretary)—The regular meeting of the Fresno County Medical Society was held on September 2 at the nurses' home of the General Hospital, with the following members present: Aller, Avery, Barrett, Brown, Couey, Cross, Drake, Diederich, Dearborn, Ehlers, Ellsworth, Hare, Jamgotchian, James, Jorgensen, Kjaerbye, G. L. Long, S. M. Long, Miller, Montgomery, Mitchell, Morgan, Milholland, Newton, Nedry, Schottstaedt, Sheldon, Staniford, Scarboro, Tillman, Tobin, Tupper, Webster, Wiese, and Willson.

Max Rothschild of San Francisco gave a very interesting and instructive paper on "The Modern Treatment of Pulmonary Tuberculosis," with demonstration by lantern slides. He discussed the treatment as regards the two types—exudative and productive. For the former he strongly advocated partial antigens in very small amounts intra-cutaneously, waiting until all reactions are gone, using no tuberculin or heliotherapy. Gradually, the exudative type becomes the productive type, when tuberculin and heliotherapy may be used. The non-specific therapy, artificial pneumothorax, should be used in selected cases, but only pressure equal to atmospheric. The lantern slides shown illustrated the marvelous results obtained in advanced cases with cavities.

The applications for membership of C. B. Cowan of Selma, and G. K. Nider of Fresno were read and ordered placed in the proper channels for action.

Dr. Max Rothschild was the guest of the staff of the General Hospital at luncheon on September 2, where he gave an informal talk on "Tuberculous Glands in Children."

SAN DIEGO COUNTY

San Diego County Notes (by Robert Pollock, M. D.)—The Medical Society resumed its fall and winter sessions with a dinner in the Pompeiian room of the San Diego Hotel, Tuesday, September 9. After dinner the evening was given up to music and sociability, and a free-for-all discussion of several matters of vital interest to the medical profession, chief among which were the handling of the public health in the outlying districts of the county, and the question of affiliating all public health efforts of municipalities and country districts under one head. The question whether the San Diego County General Hospital and the Outdoor Clinic were being abused by people who could well afford to pay for services and, therefore, not entitled to free treatment was given a liberal discussion. Both of these public welfare movements are served by the County Medical Society, and through their services it was shown, in discussion, that they contributed twice the amount of money annually as was drawn from the taxpayers for the support of this service. Computation was based upon the minimum charge for medical services, as outlined in the fee bill of the medical society. It

was the opinion of the meeting, as expressed by vote, that, under such existing circumstances, it was inappropriate to endorse the practice of the supervisors in accepting fees from any patients in part payment of their services rendered. While the physicians are perfectly willing to donate their services to the worthy poor, they feel that none but the members of that class should be admitted to either the clinic or the hospital, and a sufficient force of trained social service workers should be employed by the supervisors to guarantee this to the public. The need of more hospital beds for the middle class was made evident by this discussion.

On Monday, September 15, the physicians of the county and their ladies were invited to a pre-view of the new Scripps Memorial Hospital in La Jolla. This building and equipment were found to exceed even the generous praise given it in advance, and has taken a proud place among the medical institutions of the Southland.

The combined staffs of the San Diego County General Hospital and the Mercy Hospital convened in the nurses' home of the former institution on Tuesday, September 16.

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SAN FRANCISCO COUNTY

Proceedings of the San Francisco County Medical Society (reported by J. H. Woolsey, secretary)—During the month of August, 1924, the following meetings were held:

Tuesday, August 12—General Meeting: Water problems of San Francisco—M. M. O'Shaughnessy, City Engineer San Francisco. The mental symptoms of myxedema and other forms of thyroid insufficiency—T. G. Inman.

Tuesday, August 19—Section on Industrial Medicine: What is meant by a traumatic neurosis?—T. G. Inman. Value of trauma in neuroses—H. C. McClenahan. The retraumatized neurotic—W. F. Schaller. Treatment of post-traumatic neuroses—Joseph Catton.

St. Joseph's Hospital Staff Meeting—At the staff meeting of September 10, Dr. Wallace Terry spoke on the "Modern Treatment of Goiter," Dr. A. S. Musante presiding.

Doctor Terry considers that there are four general types of goiter—the epithelial, colloid, adenomatous, and adolescent. In the colloid there is an excess of iodine, and in the hyperplastic a deficiency. Infection is a factor in the latter, as well as in thyroiditis, and destruction may ensue and lead to myxedema. The most common on the Pacific Coast is the adenomatous, which springs from "rests," and here only surgery can cure. Adolescent goiter occurs in girls and boys of ten to 22 years of age, and causes mild enlargement in California, but larger ones in other places. These are cured spontaneously or with iodine. Causes are deficiency of iodine and sometimes infection. The swelling is uniform, and there is no bruit or thrill, and only slight tachycardia. The colloid type is unusual here, and iodine often cures. These cause uniform enlargement, though the right lobe is larger usually, and are smooth. Surgery is not needed, as a rule. The hyperplastic or exolphthalmic type is due to infection and probably lack of iodine. They are found everywhere, and overactivity, like that afforded this "jazzy" age, is a factor. Teeth and tonsils often supply infection. Here iodine is absent (used up). There is a high metabolic rate, enlargement, bruit of superior thyroids, thrill. The adenomatous are most common here and are irregular in shape. They may have heart and kidney changes, but no exophthalmus. Symptoms are often late (even after 14 to 15 years); in hyperplasia, early malignant type (carcinoma, sarcoma, and mixed) are not rare and can follow on adomatous.

Treatment in olden days was the use of burned sponge, which we now know is rich in iodine. Certain geographical areas, through glacial action, have been ice-washed and iodine thus removed from the soil, and the products of the latter are also deficient in iodine. Therefore, iodine should be used as prophylactic, by addition to drinking water or in some other way. For adenoma, early removal is best, and even small masses should be enucleated. X-rays are contra-indicated. For exophthalmic goiter, x-rays are also a mistake, but rational iodine therapy and surgery are best. Pre-operative preparation includes gentleness and the gaining of their confidence. Rest, ice-bag over heart and neck help to quiet. Lugol's solution m. 10 t. i. d. in chocolate malted milk is useful. In about three weeks of forced feeding, eliminating red meats, brains, liver, tea, and other stimulants, patients will improve. Operate if pulse is better. Ligate superior thyroids if radical operation is not possible. Polar ligation, including sympathetic nerve and lymphatics is better. Afterward should follow gain of weight, even twenty to thirty pounds. Nitrous oxide and oxygen is best anesthetic. Ethylene causes more bleeding and has a disagreeable odor, but may be improved. Kocher incision should follow folds of neck and go through platysma. Expose from thyroid cartilage to sternal notch. Retract muscles; seldom cut. Leave pieces near superior and inferior thyroids and a thin layer of the posterior portions, as well as the deep (pre-tracheal) fascia. In adenoma, don't remove thyroid tissue. If patient goes bad while operating, stop and apply gauze, soaked with acriflavine solution, to wound and ice over this, and put back to bed for a few days. Substernal portion can be removed with a soup spoon having a rounded bowl. Before closing, wash well with Ringer's solution. Use fine catgut to bring muscles together and suture platysma separately for a small scar. Skin clips approximate skin and can be removed in three days. Patient can go home on fourth day.

Drs. Roy Parkinson and David Stafford presented case reports of mastoiditis with meningitis and miliary tuberculosis.

At the staff meeting of October 8 Dr. R. L. Rigdow will discuss "Avoidance of Urological Pitfalls."

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SANTA BARBARA COUNTY

Santa Barbara County Medical Society (reported by Alex C. Soper, Jr., secretary)—The Society met at the Cottage Hospital, Monday, August 18, President Robinson in the chair. Present: Eighteen members, four internes, and two guests. Minutes of previous meeting read, approved, and ordered filed.

Report of committee on an advertisement in the State Journal which was believed unethical was read. Moved that a copy be sent to the secretary of the State Association for action.

(Note—The Executive Committee of the C. M. A. has investigated the matter in question, and the advertisement has been removed, with thanks to the Santa Barbara Society for calling the matter to our attention. It is such co-operation that helps keep California and Western Medicine up to the high standard we set for it.)

Letter from the secretary of the S. B. Druggists' Association, enclosing patent medicine ad, read; also letter from the State Secretary defining the status of a local osteopath.

Harry L. Schurmeier read a paper on "Late Post-traumatic Compression of the Os Calcis."

Charles S. Stevens discussed "Post-operative Emboli."

Henry J. Profant read a paper on "Gradenigo's Syndrome."

Deaths

Adler, Albert S. Died at San Francisco, August 29, 1924, age 65. Graduate of Cooper Medical College, San Francisco, 1876, and the University of Berlin, Germany, 1879. Licensed in California, 1880. He was a member of the San Francisco County Medi-

cal Society, the California Medical Association, and a Fellow of the American Medical Association.

Barnes, Wallace Harold. Died at Bolinas, September 15, 1924, age 30. Graduate of the Jefferson Medical College of Philadelphia, 1918, and licensed in California the same year. He was formerly a member of the San Francisco County Medical Society, the California Medical Association, and the American Medical Association.

Bassett, Foster W. Died at Los Angeles, August 21, 1924, age 63. Graduate of Northwestern University School of Medicine, Chicago, 1889. Licensed in California in 1897. He was a member of the Los Angeles County Medical Association, the California Medical Association and the American Medical Association.

Cunnane, William B. Died at Santa Barbara, August 21, 1924, age 70. Graduate of Tulane University of Louisiana School of Medicine, New Orleans, 1881. Licensed in California in 1884. He was a member of the Santa Barbara County Medical Association, the California Medical Association, and a Fellow of the American Medical Assocition.

Fehleisen, Frederick. Died at San Francisco, August 28, 1924, age 69. Graduate of the University of Wurzburg, Germany, 1877. Licensed in California, 1895. He was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Neel, James Craig. Died at San Francisco, September 5, 1924, age 42. Graduate of the Johns Hopkins University Medical Department, Baltimore, 1910. Licensed in California in 1916. He was a member of the San Francisco County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Schulze, Otto Theodor. Died at Napa, August 19, 1924, age 43. Graduate of the University of California Medical School, San Francisco, 1907, and licensed in California the same year. He was a member of the Napa County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

New Members

Arthur C. Christensen, Ethel Fanson, Edward W. Hayes, E. J. Krahulik, B. A. McBurney, John MacLean, H. S. Portogallo, Los Angeles; Joseph J. Jelinek, Tujunga; T. H. Slaughter, Long Beach; W. L. Chilcott, San Jacinto; Edward J. Lamb, Santa Barbara; J. J. Levy, Reedley; H. M. McNeil, Big Creek; Joseph L. Kalfus, Arroyo Grande; Tholow Binkley, Sacramento; W. S. Kiskadden, El Centro.

STIMULANTS, DEPRESSANTS, HUMOR

"In answer to your letter may I say that I will be too glad to stand the expense of $10 for the cuts, as I am always proud to have any of my articles appear in our journal, which is so splendidly edited and which is a pride to medical publications."—A. G., Los Angeles.

Two Scotchmen decided to become teetotalers, but MacGregor thought it would be best if they had one bottle of whisky to put in the cupboard, in case of illness.

After three days Sandy could bear it no longer, and he said, "MacGregor, I am ill."

"Too late," said MacGregor; "I was ill all day yesterday!"

"This is what I have against our medical journal: I used to be able to read it in ten minutes and now it takes me two hours—and I have to read it, too."—V. G. V., San Francisco.

"Our journal has improved so much, month by month, that I have often felt the urge to send my humble commendation to you, as I realize your devotion to it. It has not only become better in the ordinary good qualities such a publication should possess, but especially in its editorials. These latter are more than thoughtful, in that they make the reader think also, and should receive from the profession due consideration."—A. S. M., San Francisco.

"I want to thank you for the privilege of discussing this paper and expressing myself on a subject (cholecystitis) that has come so close to my personal life."—W. H. W., Long Beach.

Dear Doctor: I got your letter about what I owe you. Now be pachunt. I ain't forget you. Pleez wait. When sum. fools pay me I pay you. If this wuz judgement day and you wuz no more prepared to meet your Master as I am to meet your account, you sure would have to go to hel. Trusting you will do this.

"Thank you very much for the honor and courtesy shown me by this request for discussion of Doctor Blank's paper."—A. R., San Francisco.

It was late at night. No one seemed to be about, and the poor woman, making her first ocean trip, was very, very sick. She thought that if she could only get up to the deck for a few minutes, the fresh air would help her recover. So, quite scantily clad, she made her way out of her room and started to crawl up the steps. She was entirely too sick to walk. Half way up the stairs she met an equally seasick man, coming down. She gave a feeble, very feeble, scream of embarrassment.

"Do not worry, my dear madam," groaned the man, very, very feebly, too. "I shall never live to tell about it."

Nevada State Medical Association

HORACE J. BROWN, M. D., Reno.....President
CLAUDE E. PIERSALL, M. D., Reno.....
Secretary-Treasurer and Associate Editor for Nevada

We regret that the report of the proceedings of the Annual Session of the Nevada Medical Association, held at Reno last month, could not reach us in time for this issue. But it will be published in full in November.

The program as published in the September number of our journal was carried out, and the papers presented will appear from time to time in the pages of California and Western Medicine, as the official organ of the Nevada Association.

California men who were guests at the meeting report that it was the usual success.

All social life is ritualistic. You cannot walk along the street or enter a house without observing a ritual which you could not violate without an overwhelming sense of guilt. A child has not yet grown up to the sense of ritual. Imagine yourself doing in public the things a child does! Human society, as much that of the savage as of the civilized, seems, in practice, if not in theory, impossible without ritual, however we may have simplified it, or conventionalized it, from its primitively more elaborate and sacredly significant forms. The ancient Chinese, who had so profound a feeling for the essential things of life, based morals on ceremony and music. It is impossible to construct even Utopia without ritual, however novel a ritual it may be, and even Thelema was an abbey. It is not only society; it is all life, that is full of ritual, ancient and fantastic, seemingly absurd and unnatural ritual, that is indeed moulded into the very shape of life. Where can we find such wildly and diversely extravagant embodiments of ritual as in the greenhouses of Kew or the cages of the zoo? For Nature is herself the maker of ritual. We are all ritualistic, carrying out rites so widely diverse that we cannot enter into the spirit of one another's ritual. Yet, whether devised by Nature's direct mechanistic action or through the human brain, it is all the manifestation of an underlying vital meaning.—Havelock Ellis (The Forum).

"JUST BE THE BEST"

If you can't be a bush, be a bit of the grass,
Be a scrub in the valley—but be
The best little scrub at the side of the rill;
Be a bush if you can't be a tree.
If you can't be a bush, be a bit of the grass,
Some highway to happier make;
If you can't be a muskie, then just be a bass—
But the liveliest bass in the lake!
We can't all be captains, we've got to be crew,
There's something for all of us here;
There's big work to do, and there's lesser to do,
And the task we must do is the near.
If you can't be a highway, then just be a trail,
If you can't be the sun, be a star.
It isn't by size that you win or you fail,
Be the best of whatever you are."

Utah State Medical Association

SOL G. KAHN, Salt Lake City.....President
WILLIAM L. RICH, M. D., Salt Lake.....Secretary
J. U. GIESY, 512 Felt Bldg., Salt Lake City,
Associate Editor for Utah

GRADUATE INSTRUCTION

The outstanding feature of the month of August locally was the course in Graduate Instruction, held in Salt Lake under the auspices of the State Medical Association, August 25 to 30, inclusive. The complete program is given below.

The committee on this feature of the medical year were fortunate in obtaining Dr. Arthur Dunn of Omaha and Dr. Clifford Grulee of Chicago as speakers, and Drs. T. A. Flood and Shakell of Salt Lake City for laboratory demonstration for this week.

It is gratifying to meet and listen to such men, gratifying to note the workmanlike, common-sense manner in which they approach their topics, and the consideration of the conditions involved. The time has certainly come for medical progress to throw overboard the Jonah of semi-mystical atmosphere which has for so long, in a measure, camouflaged, at least upon occasion, a regrettable ignorance. It takes a bigger man to say "I don't know" than to pass the buck by the use of a superior demeanor and the use of polysyllabic but largely meaningless terms.

Two ways the man in practice has to learn outside bitter experience: he may read, and he may be taught. To be taught he must come into contact with the teacher. To the busy man such as the average practitioner, with an average income, the expense of post-graduate work is not always a thing easily met, or the time is not always easily found to escape from the daily press of routine duty. It is to such men that a course of post-graduate instruction such as has recently been supplied by the Utah Association is of the greatest service.

It is contemplated to extend and broaden this service from year to year. Let us hope that those of the fraternity who need it will not fail to avail themselves of it. Surely we need it—and we may have it, if we will give it our support.

Program for Week of Graduate Instruction

(R. O. Porter, H. L. Marshall, W. R. Calderwood, Committee.)

Monday, August 25

9 to 10:25—Dr. Dunn: Cardiac Conditions, Valvular and Muscular, Including Hypertension.
10:35 to 12—Dr. Grulee: Feeding and Care of the New-Born.
(Salt Lake County Hospital.)
2 to 3:30—Laboratory Diagnosis.
(University of Utah Medical School.)

Tuesday, August 26

9 to 10:25—Dr. Dunn: Cardiac Conditions, Valvular and Muscular, Including Hypertension.
10:35 to 12—Dr. Grulee: Abnormal Conditions of the New-Born.
(Holy Cross Hospital.)
2 to 3:30—Laboratory Diagnosis.
(University of Utah Medical School.)

Wednesday, August 27

9 to 10:25—Dr. Dunn: Diabetes.
10:35 to 12—Dr. Grulee: Feeding of the Normal Child Under Two Years of Age.
(L. D. S. Hospital.)
2 to 3:30—Laboratory Diagnosis.
(University of Utah Medical School.)

Thursday, August 28

9 to 10:25—Dr. Dunn: Focal Infection Problems.
10:35 to 12—Dr. Grulee: Constipation and Diarrhea of Infants and Children.
(St. Mark's Hospital.)
2 to 3:30—Laboratory Diagnosis.
(University of Utah Medical School.)

Friday, August 29

9 to 10:25—Dr. Dunn: Gastro-intestinal Diseases.
10:35 to 12—Dr. Grulee: Differential Diagnosis of Conditions in Infancy.
(Salt Lake County Hospital.)
2 to 3:30—Laboratory Diagnosis.
(University of Utah Medical School.)

Saturday, August 30

9 to 10:25—Dr. Dunn: Gastro-intestinal Diseases.
10:35 to 12—Dr. Grulee: Nutrition of Older Children and Disturbances of Internal Secretions.
(Holy Cross Hospital.)

CARRY ON

The enemy stages an offensive, and takes his toll of the forces we have to stand before him and hold the line. Night broods over the trenches—a shell bursts and men perish. And their fellows write above them, "Died in the face of the enemy." And having written they strengthen themselves by the example of the fallen and—carry on.

By five names in the last few weeks the ranks of the profession in Utah have been thinned. Five men no longer answer "Here" to the call to duty. In the face of the enemy, engaged in the performance of their service to their fellows, they have gone forth into the unknown.

They are mourned. They are not forgotten. They are carried on the roster as honored by service performed. They are missed—by their medical associates, their loved ones, their friends. As the highest honor to them, let us who remain, strengthen our hearts by their example, take up the torch of service as it falls from their now chill fingers and—steadfastly—carry on.

ERNEST L. VAN COTT, M. D.
1873-1924

Dr. Ernest Van Cott, of 868 Second avenue, Salt Lake City, dropped dead in Wellsville canyon, fifteen miles from Logan, when he alighted from his automobile to fill the radiator with water. An acute attack of heart disease was the cause of death.

With Dr. and Mrs. T. J. Howells, 374 North Main street, Dr. and Mrs. Van Cott were returning to Salt Lake after touring Yellowstone Park and the Jackson Hole country.

Dr. Van Cott was a native of Salt Lake. He graduated from the University of Utah in the class of 1897 and received his M. D. degree from the Rush Medical College of Chicago. He was appointed local surgeon of the Oregon Short Line Railroad in 1904.

H. S. PYNE, M. D.
1862-1924

Dr. Herbert S. Pyne, 62, prominent in medical, church and political circles, died August 14, 1924, from pneumonia after an illness of four days.

Dr. Pyne was a member of the American Medical Association, the American Medical Volunteer Relief Corps, and the Utah Pharmaceutical Association, the Utah State Medical Association, and the Utah County Medical Association. For four years he was Utah county physician. From 1895 to 1901 he was steward of the State Mental Hospital. He took up private practice here in 1908.

Minutes of the Salt Lake County Medical Society (reported by M. M. Critchlow, secretary)—The regu-

lar meeting of the Salt Lake County Medical Society was held at the Latter Day Saints Hospital, Salt Lake City, Utah, Monday, September 8, 1924. The meeting was called to order at 8:05 p. m. by President A. A. Kerr. Forty-one (41) members and nine (9) visitors being present.

The minutes of the last regular meeting, which was held June 9, 1924, and of the special Aschoff meeting held June 25, 1924, were read and accepted without alteration.

Scientific program was put on by the members of the L. D. S. Hospital staff. John R. Llewellyn presented a case of infantile paralysis and went into detail as to treatment. The case was discussed by S. C. Baldwin, who emphasized the necessity of preventing deformities. H. C. Holbrook also discussed the case.

G. G. Richards presented a case of endarteritis obliterans or thromboangiitis obliterans and discussed the treatment. He also presented a very interesting case of pulmonary fibrosis with possible adhesive pericarditis.

F. F. Hatch presented a case of diverticulum of the bladder and acute pyelonephritis relieved to a large extent by operation.

L. E. Viko showed a child of ten years with partial paralysis of the right arm, leg and face, who had had epileptiform convulsions since the age of 5, following gunshot wound of the head. The case was discussed by G. W. Middleton and A. A. Kerr.

Burtis F. Robbins showed a case of possible sarcoma of the jaw, also a case of carcinoma of the nose on which three plastic operations had been done, also a case of tumor of the lower lip.

T. F. H. Morton presented a case of possible lead poisoning.

Burtis F. Robbins gave a talk on colonic ether anesthesia.

The applications of M. Skolfield and George E. McBride were voted upon and they were unanimously elected to membership. Sixteen members voted. The applications of G. H. Pace and Edwin R. Murphy were read and referred to the board of censors.

Upon the absence of D. L. Barnard, chairman of Necrology Committee, James P. Kerby read the resolutions upon the death of John F. Critchlow and Ernest Van Cott.

Delicious refreshments were served by the nurses of the L. D. S. Hospital and the meeting was adjourned at 10:05 p. m.

Holy Cross Hospital Clinical Association—Monday, September 15, marked the resumption of meetings by the Holy Cross Hospital Clinical Association.

Recently some additions have been made to the Holy Cross staff. The following men have been appointed: L. N. Ossman, orthopedic surgery; T. William Stevenson, surgery; Ralph Pendleton, surgery; M. M. Neilson, surgery; W. C. Cheney, pediatrics; Wilford W. Barber, pediatrics.

The program consisted in a report of Convention of American College of Surgeons held at Pocatello, by A. A. Kerr, M. D., and "Dislocations of the Spine," by A. J. Hosmer. General discussion followed.

A Correction—In my recent article, "Hay Fever in the Sonoran Belt of the Intermountain District," which was published in the July number of California and Western Medicine, an error occurs which, while not altering my conclusions, should be corrected for the sake of accuracy. The statement "about June 15, rabbit brush (panseria deltoidea), a composita, begins to pollinate" is correct, but continued observation shows that only a few plants in warm, sheltered places bloom that early. The great majority do not come into full bloom until about August 1. However, as practically none of our patients date their onset from this time and as very little of the rabbit brush pollen appears on atmospheric plates and, finally, as there are very few markedly positive cutaneous reactions from its extract, I still believe rabbit brush to be of secondary importance as a cause of our local type of hay fever.—H. J. Templeton, M. D., Hiawatha, Utah.

Medical Economics and Public Health

Dilettantism in Radiology—Under this title the London Lancet of July 19, 1924, carries an editorial that is worthy of careful reading by all physicians.

There is more than one opinion among physicians, and there are many opinions among others, as to the place practical radiology should have in the scheme of things medical. If we are not careful about getting together as physicians and settling permanently what should be a problem in medical economics, we are likely to have the matter settled for us by politics. Several attempts have been made to pass legislation of one kind or another by the California legislature. Some quite unsatisfactory bills have come dangerously near becoming law. The legislature meets again this winter, and it would be safe to bet that attempts will be made to pass more than one x-ray bill.

Alleged Special Courses for Doctors—Several members have sent us letters from itinerant lecturers who are out to educate—for a price—physicians about this or that. We have commented upon this movement from time to time. There is not much more to say.

In most instances the purpose behind the advertising experts is selfish and mercenary, and the things they often have to sell are useless, freakish or otherwise undesirable. There are plenty of opportunities for special work for those who want it, obtainable through ethical and approved channels.

Is This True?—In his address, the chairman of the Section on Pediatrics of the American Medical Association, in discussing the early days of pediatrics as a specialty, says: "At that time, the greatest field of preventive medicine, the first year of life, was almost entirely neglected. The general practitioner was content to leave the care and feeding of the infant to the nurse, to the mother, or to the directions on the bottle or carton; he concerned himself with the infant only when it became ill. The high death rate among infants was considered a weeding out of the unfit, and only when national fervor stirred the profession did we begin to take an interest in the normal child."

Medical Work of the United States Steel Corporation—Modern trends in personal and public health advancement are indicated to a remarkable extent by the development of medical departments in great corporations.

The United States Steel Corporation is one of the most important of these. Their expenditures on medical and welfare work for their employes for ten years, ending December 31, 1923, was nearly $127,000,000. These figures do not include either the pension roll of over $9,000,000, nor the administration expenditures for health and welfare of one-half million. This great corporation employs on salary 344 physicians, 235 nurses, 71 visiting nurses, 112 orderlies and other attendants, 44 sanitary inspectors, 203 teachers and instructors, including teachers and instructors in health work, and has 863 employes in training in emergency work. They operate 13 base hospitals, 389 emergency stations, and 66 rescue and first-aid stations. They spend some $3,000,000 a year on sanitation, over $1,000,000 on accident prevention, and nearly $4,000,000 on relief for injured men and their families. Their special aim seems to be, good medical and health service. Their medical work is conducted through a central medical department with

subsidiary departments for the various companies. One of the most important features of their work is the building, equipment, and maintenance (including skilled supervision) of 175 playgrounds for children, with an approximate attendance during the summer of 25,000 children per day.

This is only one of the thousands of corporations now expanding and developing medical departments as part of their organization. It is one of the largest, to be sure, but they are all organized along the same economic lines that characterize business enterprises in other phases. There are, of course, undesirable features connected with many of these developments, but if one must take a choice between that kind of wholesale medical work, and that turned out by government bureaus, we feel that the corporations are to be preferred.

Corporation Medicine—The medical department of the Endicott-Johnson Corporation seems to be as complete a department as that of sales, executive, production, or what not.

They employ some 16,000 shoemakers. Medical service is complete for home, office, and hospital. Workers are given periodic medical examinations, beginning with a pre-employment one. The medical department handled 90,000 calls during last year. There were 5000 ambulance services. All sorts of special clinics, including dental work, baby clinics, and all other special services are carried forward. The corporation's doctors made 75,000, and nurses 15,000 home visits alone during the year. The cost of the medical department was over $400,000 for the year.

Hundreds—yes, thousands—of other corporations are progressing as actively with the development of medical departments as they are with any of their other activities. There are good points in many of these services, and there are bad ones in most of them. Nevertheless, they are here, and here to stay and to grow. They may be improved, but they cannot be destroyed even if anyone wished to do so. Whatever else this form of practice means, it certainly is better than turning all health work over to government bureaus.

New Pacific Coast Representative for Laboratory Products Company—Mr. H. Mabry Swartz has been appointed Pacific Coast representative for the Laboratory Products Company of Cleveland, whose product, S. M. A., is well known to our readers through the advertising pages of California and Western Medicine. The publicity work of the S. M. A. is done through personal letters to physicians and through advertising only in the highest class of medical journals. These people include California and Western Medicine among the seven medical journals they advertise in, and their attractive copy will be found on alternate months on the inside back cover. Discriminating advertisers deserve the cooperation of physicians, who are the owners and readers of their medical journals.

Another Digitalis Preparation—We are glad to call the attention of our readers to a new page advertisement by the Hoffmann-La Roche Chemical Works of their preparation of digitalis, Digalen. It argues well for the cause of better medicine when these great pharmaceutical houses and chemical works are vying with each other in attempts to bring out all that is possible of the virtues of digitalis and to market their preparations in accordance with their distinctive methods. We are glad to welcome this new firm to our advertising pages in copy accepted by the American Medical Association, and invite the attention of our members to the claims they make for their products.

Wilson Laboratories Have New Representative for Pacific Coast—Morgan and Sampson, 501 Howard street, San Francisco, are now Pacific Coast representatives of the Wilson laboratories, and announce that complete stocks are now carried at both San Francisco and Los Angeles for the convenience of physicians and hospitals. Further information regarding the products of this company are always to be found in our advertising pages.

As Others See Us—S. De Witt Clough presented some data of interest to physicians in a paper before the recent meeting of the American Drug Manufacturers' Association.

A confidential questionnaire was sent to 5000 doctors in every state in the union, as equally divided as possible, among the small towns and the large towns by S. De Witt Clough. "About 788 replies are received up to the time this paper was written. The results are wonderfully interesting. Never, as far as I know, has such an extensive survey been made to the medical profession on the subject of advertising. The results are astonishing, in that they point the way to saving even more than the 10 per cent previously mentioned."

The Questionnaire

1. What method of advertising to physicians do you consider most effective?
   - A.—Letters.
     1. Filled in?
     2. One or two cent stamp?
   - B.—House organs?
     1. How many times a year?
   - C.—Samples?
     1. How many times a year?
   - D.—Medical journals?
   - E.—Exhibits at medical meetings?
   - F.—Booklets: what size?
   - G.—Post cards?

   Additional remarks. What form of pharmaceutical promotion appeals to you most?
2. Do you interview detail men and is their work effective in your opinion?
3. Do you think the American Drug Manufacturers' Association and allied associations should interest themselves in a campaign of publicity to create a better understanding, greater good-will and more complete confidence on the part of the public toward the regular medical profession?
4. Would such a campaign be effective, in your opinion, in checking the tendency of the public to drift to the cults and directing the attention of the laity to the physician and his accomplishments?

"Four hundred and eleven replies were received from small towns, and 377 from the larger cities. The votes for the various forms of promotion are most interesting. Samples received the largest number of votes—576, only sixty-two doctors voting against samples. The comments on the use of samples were very illuminating. A large number of doctors stated that the samples they received were too small to be of any practical value.

"The method which received the next largest number of votes was medical journals; 499 doctors voted for this method of promotion, 57 doctors, 'No.' Contrary to the general belief, only a very few doctors stated that they did not read the advertising in medical journals. Seventy doctors specifically stated that they considered this the best method of pharmaceutical promotion. Some few doctors specified the journals they preferred, and some others stated that they preferred ads giving a brief description, clinical reports, and practical data. It is evident, from the large number of replies on this subject, that the doctors **do** read their medical journals and are **influenced by the advertising pages.** Ninety per cent of the pharmaceutical firms returned the questionnaire, stating they used medical journals, not particularly for the direct results obtained, but for the prestige, good-will, and insurance value of this advertising. In introducing new products, as well as keeping old products before the profession, medical

journal advertising is, without a doubt, an effective, important, and necessary form of promotion.

"576 doctors voted for and 62 voted against samples.

"499 doctors voted for and 57 doctors voted against medical journal advertising.

"476 doctors voted for and 54 voted against exhibits.

"123 doctors voted for and 270 voted against postcards.

"317 voted for and 127 doctors voted against letters.

"302 voted for 2-cent, and 15 doctors voted for 1-cent stamp advertising.

"631 doctors said they interviewed detail men, and 110 said they did not see detail men.

"It is very plain that the doctor is flooded with advertising and promotional matter. He receives from ten to twenty communications a day, all enclosing literature. Even if he is interested, he hasn't the time to peruse, much less study this mass of printed matter, which comes to him unsolicited. We must get the facts over to him quickly and clearly, in such attractive form as to arrest and hold his attention, if for but the brief space of two or three minutes."

"A 'professor' from Illinois has been getting $2 per treatment from Indiana patients for the treatment of various ailments, and in the court trial, where the 'professor' attempted to defend himself for practicing medicine without a license, testimony showed that, for the most part, the treatment consisted of a few gesticulations with the hands and the recitation of a verse of Scripture," says the Indiana Medical Journal editorially. "Just why the 'professor' did not employ absent treatment and save his carfare into Indiana was not brought out in the trial. As yet we have not learned of the verdict rendered by the jury, but we are inclined to think that the 'professor' is no more guilty than a Christian Scientist, for the Christian Scientists are quite willing to let a child suffer from diphtheria and die with no other attention than that ordinarily given by the true disciple of Mrs. Eddy, who is quite content to depend upon a few well chosen passages in 'Science of Health and Key to the Scriptures' to destroy diphtheria germs and save a suffocating child or cure ingrowing toe-nail, barber's itch, or green-apple colic. On the whole, it is a hard thing to draw the line on violators of the medical law when some are punished and other equally or more guilty go free. We think that the Board of Medical Registration, and prosecutors wherever they may be, should impress upon courts, juries, and the people at large, that it is perfectly proper to permit anyone who holds himself out to treat diseases to employ any form of treatment that in his judgment seems best, but before doing so he shall comply with certain rational educational requirements, and those requirements of necessity must cover the fundamentals of medicine, including anatomy, physiology, and pathology."

"Preventive Medicine Is of Ancient Standing," says Peter MacDonald, M. D. (British Medical Journal). "In the Mosaic laws there are many sanitary measures, and, while some of them are concerned with various incantations and sacrifices, some are in accord with modern ideas; and in the Middle Ages most European countries had laws dealing with sanitation, adulteration of food, etc. The punishment seems to have best fitted the crime in Germany, where there is an account of an adulterator of wines being condemned to drink six quarts of his own wine, from which he died. Nevertheless, in ancient times up to and through the dark ages, preventive medicine consisted mainly of priestly incantations and laying on of hands, and real effective prevention is a growth of the past fifty years or so."

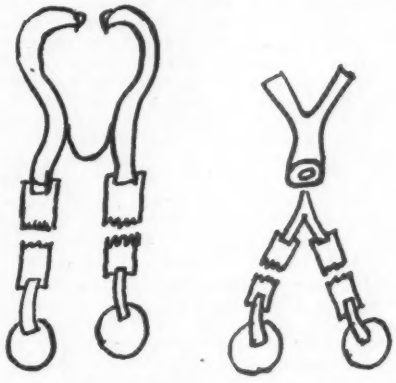
Clinical Notes and Suggestions

A PRACTICAL ARRANGEMENT OF THE STETHOSCOPE OR PHONENDOSCOPE FOR THE EXAMINATION OF THE HEART SOUNDS, MURMURS, AND THE HEART IN GENERAL

By Samuel Floersheim, M. D., Los Angeles

In my routine gastro-intestinal examinations, I am in the habit of examining the chests of all patients. At times it had been difficult for me to discern which was the first or the second sound of the heart, or whether there was a systolic or a pre-systolic murmur present.

In my effort to differentiate, I used two phonendoscopes, closing up one ear-piece of each instrument with vaseline, the other open end of each instrument in each ear. It was somewhat crude, awkward, and difficult to get clear definition. It then occurred to me that one could connect the two phonendoscopic or bell ends to one set of ear-pieces. After doing so



I found that the sounds of the heart, together with the murmurs when present, were clear and exceedingly easy of interpretation and differentiation.

It is difficult, at times, for seasoned practitioners to differentiate the heart sounds, murmurs, and other adventitious sounds, and often exciting and heated discussions occur. How much more difficult is it for the student?

I believe, should one construct or rearrange either the bell stethoscope or phonendoscope as per illustration, teaching, interpretation, differentiation and clear definition of the heart sounds, normal and pathological, would be much easier, quicker, and better understood.

I wish to take no priority for this arrangement, as I have not perused the literature. I have never seen nor heard of this arrangement being used. I know that many years ago in the post-graduate medical institutions in New York I saw a single large phonendoscopic end attached to from two to fifteen or more ear extensions. This, of course, is a different arrangement and enables more than one person to listen to the heart or other sounds at the same time; but the arrangement that is depicted in this letter is a reduplication of the phonendoscopic end. A multiplication of the ear-ends could also be assembled, should more than one person wish to listen in.

1015 Story Building.

One out of every 123 persons in the United States is confined in an institution supported by the state because he is either mentally defective, dependent, criminal, or delinquent.—Hygeia.

BOOK REVIEWS

The Internal Secretions. By Arthur Weil. Translated by Jacob Gutman. 3rd ed. 287 pages. Illustrated. New York: Macmillan Co. 1924.

Weil, a physiologist, has approached the presentation of endocrinology from a somewhat different angle than the majority of text-books on the subject. Instead of considering the various ductless glands separately, describing their functions and the clinical syndromes that are the result of abnormal function, the author has attempted an airplane view over the field, in an effort to correlate the various glands in a unified manner with reference to particular body functions. Some of the chapter headings will illustrate his conception: "The Circulation of the Blood," "Respiration and Voice Production," "Metabolism," "Growth and Bodily Form," "Reproduction," "The Sexual Impulse," "The Mind and the Internal Secretions," "The Chemistry of the Secretions," etc.

The first edition was published toward the close of 1920. That a third edition appears so soon indicates a certain amount of popularity, which is further attested by translations into Spanish, Russian, Japanese, and now into English. The translator deserves credit. He has avoided a literal clumsy rendition from German to English, and has produced a version gracefully phrased and pleasant to read.

No bibliography is included, which is a wise decision; it would either suffer from incompleteness or else tremendously enlarge the book and merely duplicate what has already been done exhaustively in the works of Biedl and Barker, one of which has 500 pages, and the other 700 pages of references.

The third German edition (of which this is a translation) appeared in January, 1923. Consequently, very important researches, such as insulin, Evans' and Smith's work on the hormones of the anterior lobe of the hypophysis, and Allen's and Doisy's work on the ovarian hormone are not included.

This book can be genuinely commended for perusal by medical students and physicians, especially if it be understood that it is not a short cut to diagnosis and treatment. It is a welcome exception to some of the fantastic endocrine twaddle that has appeared in recent years. H. L.

The Human Testis. By Max Thorek. 548 pages. Illustrated. Philadelphia and London: J. B. Lippincott Co. 1924.

This book is certainly worth while reading, and will be welcomed and studied by many surgeons. It has the merit of being the only book written in any language containing all the information about the human testicle a surgeon could look for. Therein we have the organ and its functions in normal condition, its pathology from all angles, and the therapy, as the author in his vast experience sees it. One would be tempted to say, Nothing was forgotten. While the book could not enter into the medical treatment of the tubercular nor the syphilitic, tuberculosis of the testicle is well described, and its surgical treatment very well gone into.

The author justly emphasizes the frequency of syphilis of the testicle, and syphilologists will bear him witness how many a man's testis can be saved from the surgeon's knife by proper antiluetic treatment. The book contains 548 pages, is bulky enough to scare off the occasional reader, but it is written most interestingly, and we could hardly suggest having any part eliminated, not even the very interesting historical data, which may not be essential from a practical standpoint.

Thorek deserves especial credit for his extremely interesting and costly animal experiment. To castrate six monkeys at the same time would be a millionaire's pastime were it not that some of the glands could be used for the benefit of some deficient human being, but we read that the glands were frequently transplanted again into the monkeys.

Thorek's personal observations are thorough and well reported, a shining example being the study of a colored man who suffered a degeneration of both of his testicles after mumps. His studies on ectopic testicles are very good. Most of his observations, reinforced by the thorough study of the histological changes, contribute considerably to the better understanding of the many and distressing dystrophic conditions.

The conclusion that blood relationship is most important for the transplantation is not new, and is, as we would say, "granted," but the author impresses us with the extreme importance of the choice of the site and the technic. So far his technic is surely the best and gives the best results. While Thorek is rather conservative and modest in his claims, he is also very enthusiastic, and one must believe that we are at the beginning of great things.

The publishers deserve credit for the construction of the book and the reproduction of the beautiful illustrations. The experienced surgeon may find that some of the illustrations of the technical part of various operations are somewhat elementary, but minute information and instruction may be welcomed by many. V. G. V.

BOOKS RECEIVED

Monographs on Experimental Biology; Chemical Dynamics of Life Phenomena. By Prof. Otto Meyerhof, Kiel. Philadelphia and London: J. B. Lippincott Company.

Race Hygiene and Heredity. By Hermann W. Siemens, M. D.; Translated and Edited by Lewellyn F. Barker, M. D. Illustrated. D. Appleton & Company, New York, London, 1924.

A Practical Medical Dictionary. By Thomas Lathrop Stedman, M. D., Editor of the "Twentieth Century Practice of Medicine" and of the "Reference Handbook of the Medical Sciences." Eighth, Revised Edition. Illustrated. New York: William Wood & Company, 1924.

Principles and Practice of Obstetrics. By Joseph B. DeLee, A. M., M. D., Professor of Obstetrics at the Northwestern Medical School. Fourth Edition, Thoroughly Revised. Large octavo of 1123 pages, with 923 illustrations, 201 of them in colors. Philadelphia and London: W. B. Saunders Company, 1924. Cloth, $12 net.

Medical Gynecology. By S. Wyllis Bandler, M. D., Professor of Gynecology, New York Post-Graduate Medical School and Hospital. Fourth Edition, Thoroughly Revised. Octavo of 930 pages, with 157 original illustrations. Philadelphia and London: W. B. Saunders Company, 1924. Cloth, $8 net.

The Test Is Diagnosis—No man is competent to assume the responsibilities of a healer of any kind until he is well grounded in all the fundamental scientific knowledge about the human body. Until he is so trained his practice is a constant menace to the public health. **If he agrees to treat but a limited class of diseases, or to confine his activities to but one part of the body, he is still a dangerous man until he is able to distinguish the disease which he purposes to treat from all the other disease he does not purpose to treat.** Patients do not come labeled with their complaints, and the practitioner is manifestly unable to make a correct diagnosis until he has familiarized himself with the human body, the laws of its health, and the signs and symptoms of the diseases to which it is heir.—Harry E. Kelly, member of the Chicago bar.

HOSPITAL AUTHORITIES WILL SPEAK AT LONG BEACH CONVENTION, NOVEMBER 6, 7, 8

Plans for the annual convention of the hospitals of California, which will be held at Long Beach, November 6, 7, 8, are rapidly nearing completion. The tentative program of the eight meetings, which will form the major part of the three-day conference, will be found in this issue of California and Western Medicine.

Representative hospitals are co-operating in this conference and will send delegates from each of the following: Staff, nursing, all professional and technical departments, ownership, directorate and administration. Delegates from virtually every county in the state will be present to hear national authorities and prominent hospital executives, physicians, nurses, dentists and social workers discuss the various problems and phases of hospital service.

Outstanding among the features of the program will be an address by Dr. Ray Lyman Wilbur, president of Stanford University, on "Some Problems Confronting Hospitals as Agencies of Scientific Medicine"; "What Hospital Betterment Means to Community Welfare," by Dr. Malcolm T. MacEachern, director of Hospital Activities, American College of Surgeons, Chicago, and the discussion of "Problems Confronting Scientific Medicine and the Responsibility of Hospitals in Their Solution," by D. Granville MacGowan, M. D., of Los Angeles, president of the California Medical Association, and E. N. Ewer, M. D., of Oakland, president-elect of the California Medical Association.

Work of Hospitals

The League for the Conservation of Public Health, under whose auspices the hospitals of California have held conventions for the past years, believes there should be a better understanding on the part of the general public of the problems and activities of the hospital, for such an understanding will lead inevitably to better service on the part of the hospital and to an increased efficiency which will show itself in better support from the people. All meetings of the coming hospital convention, following the custom established during past conventions held by the league, are open to the public.

Many people have little knowledge of the plan of operation or of the activities of the hospital. To most people enjoying reasonably good health, the hospital is simply a place where the sick are given medical attention and charged high rates for it. The real purpose and the real service of the hospital are entirely unknown to them.

In this country the early hospitals were established largely through private philanthropy and supported by voluntary contributions. These hospitals originated in theory as places in which to care for the sick poor. All others who became ill were to be cared for in their homes. The hospital was thought of as purely a charitable institution, to which people of self-respecting independence did not go. All that is changed. Representative hospitals, the kind from which the delegates to the hospital convention come, still do all the free work which their finances will permit—as every ethical doctor does and as many nurses do in their private practice. Hospitals today have grown into big business institutions with many millions of dollars invested in hospital sites, buildings, equipment and furnishings, and more millions necessary to meet the combined costs of maintenance and operation.

Costs of Hospital Service

At a time when people are discussing the high cost of living it is natural that they should be interested in the price they pay to keep or get them well. Buying medicine and hospital care is much like buying hotel service, an automobile, transportation, advertising in newspapers, clothing or anything else. One usually pays in proportion to what one gets.

There is a long list of medical, nursing, technical and hospital luxuries ready for people who wish to pay for them. Hotels, railroads, newspapers, theaters, automobile manufacturers, department stores, and others with something to sell, make much of their profits by selling various luxuries. In medical, health, hospital, and other medical agency services the public has been misinformed and "educated" to recognize luxuries as essentials and to expect luxuries at the lowest cost which may be charged for essentials only.

There are so many people criticizing the high costs of hospital service, and the criticism is based so largely upon misinformation, that the principal session of the Hospital Convention at Long Beach will be devoted to a thorough discussion of how hospital service may be given more adequately and economically to patients of moderate means.

There has been, and is, considerable complaint from patients against the more or less lengthy list of "extras" that form part of practically all hospital bills, and certainly form part of the cost of operating such institution. These same people do not protest particularly when they are assigned a room in a hotel at $4 per day and find on their account when they leave, extra charges for food, telephone, messenger, laundry, and perhaps a dozen other services that have been rendered to them. This method of charging and cost accounting is the only fair one that can be instituted. It, of course, would be easy to establish a round figure covering all assembled costs of hospital service, and to quote this as a daily rate to any and all patients. If this were done, patients who have very little service would be paying part of the expenses of those who demand and require a great deal. So we must continue to make hospital bills according to this so-called European plan, for the same reason that hotels and other businesses follow this same system.

In order that there may be a better understanding of this controversial subject, one session will discuss "What Should be Included in the Quoted Room or Bed Rates in Hospitals, and What Are Legitimate Extras."

THE PROGRAM

All meetings are open to the public

Thursday, November 6, 1924

Forenoon—Arrival and registration.
The registration desk will be opened at the Hotel Virginia and kept open until Friday evening.
All delegates, workers in the hospital field and persons interested in hospital service are requested to register.

Noon—Informal luncheon at Hotel Virginia at 12 o'clock, $1.50 per plate.
Local committee of arrangements, general committee, official representatives of hospitals and other organizations.

Opening Meeting

Thursday Afternoon, November 6—2 to 5 p. m.
Grand Salon, Hotel Virginia, Long Beach
F. L. Rogers, M. D., Chairman Local Committee, presiding.

1. Address of Welcome, by Hon. Ray R. Clarke, Mayor of Long Beach.
2. Address of Welcome, by Dr. W. H. Kiger, President Los Angeles County Medical Society.
3. Address of Welcome, by Dr. R. W. Wilcox, Harbor Branch, Los Angeles County Medical Society.
4. Response by Dr. Dudley Smith, President League for the Conservation of Public Health.
5. Induction of Chairman of the Conference.
6. Some Problems Confronting Hospitals as Agencies of Scientific Medicine, by Dr. Ray Lyman Wilbur, President Stanford University.
7. What Hospital Betterment Means to Community Welfare—Dr. Malcolm T. MacEachern, Director of Hospital Activities, American College of Surgeons, Chicago, Illinois.
8. Problems Confronting Scientific Medicine and the

Hospitals' Responsibilities in Their Solution—Dr. D. Granville MacGowan, Dr. E. N. Ewer.

Thursday Evening

1. Informal group dinners.
2. Various private entertainments arranged by the local committee.
3. Information Question and Answer Conferences will be conducted by the Hospital Betterment Service Committee of the League, Thursday and Friday evenings from 8 to 9:30 in the League headquarters, Hotel Virginia. Anyone with specific hospital or other medical agency problems is invited to present them for discussion and solution at these conferences.

Friday Morning, November 7, 1924

Delegates and visitors are invited to inspect the hospitals and health agencies of Long Beach and Los Angeles.

Friday Noon

Group luncheons:
Nurses.
Staff.

Second Meeting

Friday Afternoon, November 7, from 2 to 5:30 p. m.

Grand Salon, Hotel Virginia

Dr. W. E. Musgrave, presiding

Subject: The Problem of Hospital Costs.

The entire meeting will be devoted to a discussion of phases of this subject.

1. Report of the committee appointed at the 1923 conference to investigate this subject.

Friday Evening at 9 p. m.

Dinner dance in Ball Room, Hotel Virginia, under the auspices of Chairman Dr. W. Harriman Jones and his committee of the local committee of arrangements. All who register at the conference may secure tickets for themselves and for personal guests at the registration desk. A representative of the Hotel Virginia will be at the registration desk at stated intervals until 2 o'clock Friday and will be glad to arrange special table seatings for groups of friends. Table seatings may be arranged in advance by letter to Mr. Burbank, manager Hotel Virginia.

Saturday Morning, November 8

General Meeting, 10 a. m.

Dr. Percy T. Magan, presiding

Subject: The Best Methods of Co-ordinating the Work of Nursing, Public Health Nursing, Medical Social Service, Including the Articulation of These Services With the Hospital, Physician, Other Health Agencies and the Public.

Subject: Nursing Education. Mrs. Clara S. Lockwood, R. N., presiding.

What should be taught, by whom, where, under whose jurisdiction and for how long? Lines of advisable contacts between the school of nursing and the hospital. Shall California have more than one class of nurses?

Noon: Group luncheons.

Business Meeting, 2 p. m.

Dr. Dudley Smith, presiding

1. Report of Reference Committee.
2. Other business.

What Should be Included in the Quoted Room or Bed Rates in Hospitals and What Constitutes Legitimate Extras?

Five minute prepared papers and informal four-minute discussion.

Adjournment.

The following prominent members of the medical profession and hospital executives are completing elaborate plans for the convention which will insure a well-rounded program, informative and social, of general interest and profit to all who attend. General Committee on Arrangements: Dr. Francis L. Rogers, Chairman; Dr. Neal N. Wood, Los Angeles General Hospital; Dr. Charles D. Lockwood, Pasadena Hospital; Dr. Joseph K. Swindt, Pomona Hospital; Dr. Stephen Smith, Las Encinas, Pasadena; Dr. G. E. Meyers, Compton Sanitarium; Dr. Herbert A. Johnston, Anaheim and Fullerton Hospitals; Mr. L. G. Reynolds, Superintendent Methodist Hospital, Los Angeles; Dr. Frank R. Nuzum, Medical Director Santa Barbara Cottage Hospital; Dr. Harlan Shoemaker, Secretary Los Angeles County Medical Association; Rev. Thomas C. Marshall, Secretary Good Samaritan Hospital, Los Angeles; Dr. C. B. Alexander, Alhambra Hospital; Dr. C. Van Zwalenburg, Riverside; Katherine Lowery, Santa Monica Sisters' Hospital; Dr. C. E. Earley, Los Angeles Golden State; Dr. H. F. Westphal, Glendale Sanitarium and Hospital; Dr. G. W. Olson, California Lutheran Hospital; Dr. W. H. Busher, Olive View Sanitarium; Dr. C. D. Ball, Santa Ana Hospital; Dr. E. H. Thompson, Burbank Hospital; Dr. H. P. Wilson, Whittier Hospital; Dr. Edwin O. Palmer, Hollywood Hospital; Dr. Walter V. Brem, Los Angeles; Dr. Percy T. Magan, White Memorial Hospital, Los Angeles.

Local Committee on Arrangements—Dr. W. Harriman Jones, Chairman; Dr. Walter C. Smallwood; Mr. J. Oliver Brison, Convention Secretary of the Chamber of Commerce; Miss Alice Henniger, Superintendent of Seaside Hospital; Sister Elizabeth, Superintendent St. Mary's Hospital; Miss Blanche Stair, Superintendent Community Hospital; Dr. F. L. Rogers, ex-officio member of the General Committee on Arrangements.

TRUTH ABOUT MEDICINE

New and Non-official Remedies

(Reported by the Council on Pharmacy and Chemistry of the A. M. A.

Meroxyl (Hynson, Westcott & Dunning)—Meroxyl Tablets—H. W. and D.

Oridine (Eli Lilly & Company)—Oridine Tablets.

Diphtheria Toxin Antitoxin Mixture, 0.1, L+—P. D. & Co. (Parke, Davis & Co.)—A diphtheria toxin-antitoxin mixture (see New and Non-official Remedies, 1924, p. 299), each cc. representing 0.1, L+ dose, of diphtheria toxin, neutralized with the required amount of antitoxin. It is marketed in packages of three bulbs, each containing 1 cc.; also, in vials containing 20 cc. Parke, Davis & Co., Detroit.—Journal A. M. A.

Ampules Pituitary Solution—Wilson, 0.5 cc. (Wilson Laboratories).

Pacific Association of Railway Surgeons held its Twenty-second Annual Meeting August 29 and 30, 1924, at San Francisco. The program was as follows:

Food Poisoning—Ernest C. Dickson, San Francisco. (General discussion on Botulism, Ptomain Poisoning, etc.) Sources of Error in the Diagnosis of Renal and Ureteral Calculi (illustrated).—Henry A. R. Kreutzmann, San Francisco. Discussion: G. J. Bergener, San Francisco. Duodenal Diverticula (illustrated).—M. P. Burnham, San Francisco; John O'Neil, San Francisco. Discussion: James A. Guilfoil, San Francisco. Infections of the Hand—C. A. Walker, San Francisco. Discussion: J. H. O'Connor, San Francisco. Drug Dispensing in a Hospital Department—H. B. Dixon, San Francisco. Discussion: W. A. Morrison, Los Angeles. An Analytic Study of 13,000 Wassermann Examinations Among Railway Employes—W. T. Cummins, San Francisco. Discussion: Philip King Brown, San Francisco. The Neurosyphilis Problem—Walter F. Schaller, San Francisco. Discussion: Thomas G. Inman, San Francisco. Some Disabilities Following Injuries About the Shoulder, With Suggestions as to Treatment—James T. Watkins, San Francisco. Discussion: Ethan H. Smith, San Francisco; Walter I. Baldwin.

The new officers for 1924-25 are: W. C. Shipley, president, Cloverdale; O. E. Eklund, first vice-president, San Francisco; W. A. Morrison, second vice-president, Los Angeles; F. W. Lux, treasurer, San Francisco; W. T. Cummins, secretary, San Francisco.

FUTURE ISSUES OF CALIFORNIA AND WESTERN MEDICINE

Contributors and their subjects which will be published in the next several issues of California and Western Medicine include:

Alderson, Harry E. Rice Worker's Dermatitis.
Allen, Charles Lewis. Affectivity; Its Importance in Practical Medicine.
Ayers, Samuel, Jr. Glucose Intolerance Associated with Eczema.
Barkan, Hans. Some Historical Incidents in the Development of the Operation for Cataract.
Barrett, Gilbert M. Post-Traumatic Neuroses—over 1000 head and back injuries.
Bartlett, Edwin I. Industrial Aspects of Abdominal Conditions.
Boardman, W. W., and Schoonmacher, G. D. Treatment of Cholecystitis.
Breyer, J. H. Surgical Treatment of Chronic Peptic Ulcer.
Bruck, Edwin I. Clinical Data Obtained from Series of Cases of Pernicious Anemia.
Bryan, Lloyd. A Case of Secondary Hypertrophic Osteoarthropathy Following Metastatic Sarcoma of Lung.
Bullitt, James B. Stereoscopic Examination of the Two Mastoids on Two Plates.
Burks, Paul (Judge). Some Practical Suggestions Regarding Testimony of Medical Experts.
Carlton, Albert C. Removal of Tonsils by Electrocoagulation.
Catton, Joseph. Adult Delinquency; Its Prevention by Mental Hygiene in Childhood.
Chamberlain, W. E., and Newell. Robert R. X-ray Deep Therapy Installations in California.
Chapman, James W. Use of Lactic Acid Milk in Private Practice.
Chappel, Halbert W. Early Rachitic Changes in the Femur and Tibia.
Christiansen, Elizabeth B. De-etherization by Carbon Dioxid Inhalation (Report of Case).
Churchill, James F. Coronary Obstruction.
Clark, William Arthur. Torticollis.
Cooke, Harry Theodore. Antagonistic Functions of the Uterus in Retation.
Day, Robert V., and Martin, Harry W. Injuries to the Urinary Organs in Relation to Industrial Accidents.
deRiver, Paul J. Present Day Advance in Plastic Surgery with Reference to Correction of Deformities of Nose.
Dillon, James R. Tuberculosis of the Seminal Tract.
Doyle, John B. Clinical Manifestations and Treatment of Epidemic Encephalitis.
Dunlop, John. Chronic Back Pain from a Mechanical Point of View.
Eaton, H. Douglas. Radiographs of the Head from the Clinical Standpoint.
Ely, Leonard. Treatment of Chronic Arthritis.
Evans, Newton, and Tunnel, Phillip J. The Differential Leucocyte Count in Acute Inflammatory Conditions of Surgical Importance.
Evans, Newton, and Risley, E. H. High Protein Ration as a Cause of Nephritis.
Faber, Harold K. Importance of Early Diagnosis in Oxycephaly and Allied Cranial Deformities.
Ferrier, Paul A. Some Problems in the Management of Tumors of the Urinary Bladder.
Fist, Harry S. Rational Conduct of Labor.
Fleming, Howard W. Osteomyelitis of the Skull.
Frick, Donald J. Area Changes in Hearts, Showing Decompensation and Lowered Cardiac Reserve.
Gallant, Alfred E., and Koebig, W. C. Operative Treatment of Abnormalities of Fifth Lumbar Vertebra.
Gilman, P. K. Surgical Amebiasis.
Glaser, Edward F. The Doctor in Industrial Medicine.
Gottlieb, A. Osteochronditis of the Second Matatarsopholangeal Joint (Kochler's Disease).
Gundrum, F. F. Vincent's Disease and Parasyphilis, with Report of Fatal Case.
Gundrum, Lawrence K. Nasal Ganglion Neuroses.
Happ, William M. The Artificial Feeding of Newly Born Infants.
Hare, Herold P. The Relation of Chronic Focal Infection to Backache.
Hinman, Frank, and Kutzmann. Malignant Tumors of the Kidney.
Hunkin, S. J. Conditions, Especially Previous Pathological Conditions, Which Interfere with Results in Industrial Injuries.
Hurwitz, Samuel H. Treatment of Post-Influenzal Asthmatic Bronchitis.
Ingham, Samuel. Treatment of Morbid Fear.
Jesberg, Simon. Foreign Bodies in the Respiratory and Upper Digestive Tract.
Jones, Isaac H. Functional Tests of Hearing.
Kelly, Thomas H. Heart Pain.
Kerr, William J. Coronary Occlusion and Myocardial Degenerations.
Kilduffe, Robert A. The Status of the Clinical Pathologist.
Kilgore, Alson R. Doubtful Tumors, Shall We Excise a Piece for Examination?
Kinney, Lyell. Metastatic Bone Carcinoma.
Lawson, John D. Roentgen Therapy of Uterine Myoma During Pregnancy.
Lisser, H. Frequency of Endogenous Obesity and Its Treatment by Glandular Therapy.
Lobingier, Andrew Steward. Obstruction of the Cystic Duct and Its Surgical Consequences.
Lynch, Frank W. Backache in Gynecology—A Study of Its Frequency and Meaning.
Magan, Percy T. The Story of Medical Social Service Work and Its Present Status.
Maghy, Charles. Blood Staining of the Cornea.
Mathe, Charles P. Carbuncle of the Kidney.
McChesney, George J. Lengthening the Quadriceps Tendon for Stiff Knee.
Metzner, Abraham. Diphtheria Immunization.
Miller, Hiram E. Ringworm of the Scalp.
Montgomery, Douglas, and Culver, George D. Epithelioma of the Lip Treated with Radium.
Moore, E. C. Esophageal Diverticula.
Morrow, Howard, and Taussig, Laurence. Some Pathological Conditions of the Tongue.
Negley, J. C. Spinal Anesthesia in Urology.
O'Connor, Roderic. Head Pains of Ocular Origin.
Orbison, Thomas J. The Psycho-neuroses; Psychasthenia, Neurasthenia and Hysteria.
Phillips, C. E. Surgical Treatment of Diseases of the Colon.
Phillips, C. E., and Johnson, Roy H. Regional Anesthesia.
Piness, George, and Miller, Hyman. Allergy and Its Relation to the Otolaryngologist.
Player, Lionel P. Prostate and Its Influence on Low Back Pain.
Powers, Robert A. The X-ray Diagnosis of Disease of the Nasal Accessory Sinuses, etc.
Pyles, R. H. Correction of Flexion, etc., of Lower Extremities Resulting from Cerebral Palsy of Childhood.
Reynolds, Cecil E. Further Points in the Physiology of Brain Surgery.
Richards, Robert Lewis. Reasons for a Child Guidance Clinic.
Rixford, Emmet. Temperature of Operating Rooms.
Roberts, George F., and Hosmer, Andrew J. Use of Sodium Thiosulphate in Metallic Poisonings.
Rogers, Francis L. Congenital Nasal Atresia.
Rosanoff, Aaron J. Los Angeles Experience in Child Guidance Work.
Rosenkranz, Herbert A. Some Important Points in the Rapid Healing, etc., in Suprapubic Prostatectomy Cases.
Ruediger, E. H. A Plea in Favor of a Standardized Wassermann Test.
Scholtz, Moses. Skin Syphilis as Clinical Entity.
Schroeter, O. V. Relationship of Metabolic Toxins to Dermatoses.
Schulz, Raymond L. Stricture of the Ureter and Dysmenorhoea.
Schussler, Herman, Jr. Intensive Treatment of Congenital Syphilis.
Scott, Alfred J., Jr. Statistical Study of Empyema in Past Ten Years in Children.
Sheldon, Francis B. X-ray of the Urinary Tract, with Report of a Case of Congenital Unilateral Kidney.
Shephard, John Hunt. Factors Influencing Morbidity or Mortality of Exophthalmic Goiter.
Shuman, John W. Questionable Diagnostic Methods.
Smith, Bertnard. A Symptom Complex in Diabetes That May be Confused with Reaction from Overdose of Insulin.
Smith, Curtis E. The Pathology of Colitis.
Smith, Sydney Kinnear. The Habit Clinic for the Pre-School Child.
Snure, Henry. Survey of Non-Tubercular Chest Lesions.
Spiers, H. W. Twenty-one Consecutive Ambulatory Back Injuries with Special Reference to Fracture of Spine.
Stevens, William E. Kidney Anomalies; Report of Case of Bilateral Fusion of a Supernumerary Kidney.
Stewart, S. F. Treatment of Flexion Deformity of the Hip Joint.
Tarr, Earl M. Development and Re-establishment of Breast Milk by Use of Abt's Electric Breast Pump.
Timme, A. R. The Reflex Nervous Disorders as Described by Babinski.
Toland, C. G. Acute Pancreatitis.
Twitchell, Edward W. Intracranial Hypertension and Serons Meningitis.
Ullmann, H. J. Metastatic Testicular Carcinoma Involving Abdominal, Mediastinal—Glands Treated by X-ray.
Welty, Cullen F. Surgery of the Antrum of Highmore.
Williams, Edward Huntington. Some Fears of Endocrine Origin.
Woolf, M. S. Chronic Ulcerative Colitis.
Woolley, Paul G. The Relation of the Clinical Laboratories to the Practice of Medicine.
Wright, Clifford. Consideration of Progressive Muscular Dystrophy with Pseudo-hypertrophy from Endocrine Standpoint.
Wright, Harold W. The Inferiority Complex and Its Psychiatric Significance.

A NEW MULTIFOCAL LENS

A lens known as the Cross Trifocal Lens will soon be offered to the medical profession. It claims two new principles of construction. The lens will give three fields of vision, and its arrangement is such that a monocentric principle is applied to all three focal powers.

The discovery of a monocentric principle as applied to ophthalmic lenses of more than two focal powers was made in 1907. The intervening years have been devoted to perfecting methods for the practical application of this discovery.

The arrangement of the Cross Trifocal Lens is unique, in that four intermediate areas occupy portions of the lens surface which in bifocals, through non-use, are practically wasted. The intermediate fields of the new lens are brought into use by a side glance or slight turn of the head. When not required, the intermediate areas are said to be out of the way; yet are always ready for instant use.

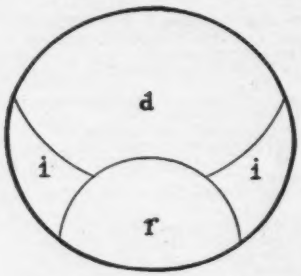


Figure 1.

In Figure 1, d represents the distance field of the new lens, which is made with the focal power required for the wearer's distance correction; r represents the reading field of the lens, which is made with the focal power required for the desired reading vision; ii represents the intermediate fields, which characterize the Cross Trifocal Lens. The focal power of the intermediate fields is midway between the powers of the distance and of the reading portions.

The inventor has suggested the following tests, in proving the monocentric principle of having one optical center that is good for far, near, and intermediate areas.

Figure 2.

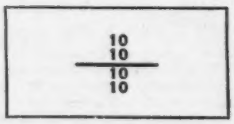


Figure 3.

Hold any bifocal lens about eight inches from the dots in Figure 2 or the 10s in Figure 3, and about eight inches from the eye (the other eye being closed). Have the top edge of the reading part of the bifocal so that it just reaches the line between the two dots or the line between the 10s. If the lens is bicentric for reading and distance, the prismatic displacement will cause the lower one of the two dots to disappear and the column of the 10s will not total correctly, for one or more of the 10s will disappear. Repeating this test with the Cross Trifocal Lens, both dots and all the 10s will be seen, for there is no displacement.

Place a bright coin on the floor and look at it from a distance of three or four feet through a pair of bifocal glasses as ordinarily worn. If the lenses are bicentric, the coin will appear double when the vision is just on the dividing line between distance and reading. Repeat this test with the new lens. Only one coin will be seen, and in its true position.

Cross Trifocal Lenses are co-centric for distance and reading. In looking at a letter through the dividing line between the two fields, the lower part of it may be magnified a trifle, but there is no gap, and no part is missing. In looking through Cross Trifocal Lenses at a step while descending or ascending a flight of stairs, the edge of each step is where it appears to be, for no displacement occurs.

By the use of the monocentric principle of lens construction, it is claimed that the Cross Trifocal Lenses are proof against eyestrain insofar as nonprismatic diplacements can prevent. They are said to eliminate what is commonly known as "jump of the image," that they require little, if any "breaking in," or "getting used to."

Yadil (Propaganda for Reform, reported by Council on Pharmacy and Chemistry of the A. M. A.)—This is an international fake of British origin. The advertising campaign for Yadil reminds one of Sanatogen in those palmy days when the public could be persuaded to pay a dollar for a few cents' worth of cottage cheese. As Sanatogen was the apothesis of cottage cheese, so Yadil is supposed to be a glorified and esoteric form of garlic. A part of the Yadil advertising campaign is an alleged history of garlic as a curative agent. Just what the theory of its use may be is not clear. Possibly the basic idea is that no self-respecting germ will want to tarry in an organism saturated with garlic. Yadil is put on the market by Clement & Johnson Bros. of London. The concern has a subsidiary company for its publicity, known as the Yadil Press, Limited (formerly called "Quality Press, Limited"). The American agents are E. Fougera & Co., New York. In the British Isles, newspapers and magazines are carrying full-page and middle-page spreads for Yadil for tuberculosis, for cancer, for scarlet fever, for gonorrhea, and for what-have-you. The British newspaper, The Daily Mail, which has refused Yadil advertising, published in its issue of July 22, an exposure of Yadil written by Sir William J. Pope, senior professor of chemistry in the University of Cambridge. Whereas, the manufacturers claim that Yadil is "Trimethanal Allylic Carbide," and declare that it is of entirely harmless vegetable origin, its active principle being natural essential oil of garlic, Professor Pope, after an analysis of Yadil, stated that (1) it is not "Trimethanal Allylic Carbide," (2) that it consists of about 1 per cent formaldehyd, 4 per cent of glycerin, 95 per cent of water, and a smell. According to Professor Pope, the smell can be closely imitated by adding to 100 tons of water one ounce of oil of garlic. He also discusses the testimonials both from physicians and from laymen, and shows the utter worthlessness of the testimony. In another article in The Daily Mail, Professor W. E. Dixon of the University of Cambridge emphasizes that the basic drug in Yadil is an irritant poison with cumulative effects, and characterizes some of the medical evidence for Yadil as nonsense.—Journal A. M. A.

More Misbranded Nostrums—The following products have been the subject of prosecution by the federal authorities charged with the enforcement of the Food and Drugs Act: De Witt's Kidney and Bladder Pills (E. C. De Witt & Co), consisting essentially of methylene blue, potassium nitrate and plant material, including a volatile oil, such as juniper oil. Foster's Backache Kidney Pills (Porto Rico Drug Co.), consisting of potassium nitrate, rosin, fenugreek, uva ursi, and an essential oil such as juniper. Glycofostina (Henry S. Wampole Co., Baltimore), consisting essentially of strychnin sulphate, sodium calcium and potassium glycerophosphate, alcohol and water.—Journal A. M. A.